



# CONSUMER PREFERENCES IN ADOPTING PRODUCT-SERVICE SYSTEMS WITH A SUBSCRIPTION REVENUE MODEL

A focus group study

Master's Thesis  
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**Abstract**

Technological development has caused service business models to become the new norm in the market, replacing ownership-based consumption, e.g. in the fields of music and books. This thesis examines the pace of servitization development as it is reaching industries that have based on traditional ownership-based consumption models. As identified in multiple previous works, changing consumer preferences is one of the major factors affecting the appearance of new service business models. Therefore, this thesis aims to shed light into consumer preferences towards adopting new subscription services with an offering of a tangible product (i.e. product-service system (PSS) with a subscription revenue model).

To study consumer preferences, five focus groups were formed and presented with hypothetical services in themes of mobility, living, home appliances and clothing. Discussions were moderated with the objective of observing the value and barriers participants perceived in subscribing to new subscription PSS concepts. Exploratory study with focus groups was chosen as a method, because of novelty of the subject at hand, and its possibilities for free form participant ideation of potential new service concepts.

The theory base of the research combines literature about services, product-service systems and non-ownership consumption as well as consumer decision making and perceived value. Similar previous research on the subject has been conducted in the form of a few focus group studies. This study fulfills these previous findings by focusing on subscription PSS specifically and also updates the knowledge of consumer preferences in a different geographical area 10 years later, as some of these concepts have already appeared in the market.

Main findings show that PSS has great potential in the eyes of consumers in lessening burdens of ownership and in fulfilling their needs proactively with a holistic service. Consumers grasp PSS potential for value creation via its ability to fulfill a need, its ability to decrease perceived costs and finally, its ability to create experiential value. Experiential aspects are of critical importance for making PSS a viable offering, as consumers are not willing to pay a monthly fee for simply accessing products. Many concerns are stated for subscription PSS, especially related to uncertainty and fear of creating hassle and emotional burden. These barriers for adoption are most apparent in categories where products are lower in costs and that are needed regularly. The thesis concludes by introducing findings in Paradoxes of Tech framework by Mick & Fournier (1998).

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**Keywords** Product-service systems, subscription, non-ownership consumption, value creation, consumer decision making

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**Tiivistelmä**

Teknologinen kehitys on muovannut palveluliiketoimintamalleista uuden normin markkinoilla, korvaten omistukseen perustuvat liiketoimintamallit palveluilla mm. musiikin ja kirjojen saralla. Nyt palvelullistumiskehitys on saavuttamassa sisällön lisäksi myös alat jotka ovat perustuneet fyysisten tuotteiden vaihdantaan. Kuten monet aiemmat tutkimukset osoittavat, kuluttajien muuttuvat preferenssit ovat yksi suurimmista vaikuttajista tässä kehityksessä. Tämä lopputyö avaa kuluttajan käyttäytymisen muutosta koskien palvelullistumista, keskittyen erityisesti fyysisten tuotteiden tilaajapalveluihin (tuote-palvelu systeemit (PSS) tilauspohjaisella ansaintamallilla).

Käsillä oleva tutkimus on luonteeltaan eksploratiivinen ja sen empiirinen osuus on järjestetty viiden kuluttajan käyttäytymistä tutkivan fokusryhmäsession muodossa. Osallistujille esitettiin tuotteita asuminen, liikkuminen, kodinkoneet ja vaatetus -teemoista. Keskustelut moderoitiin pyrkimyksenä selvittää konseptien luomaa arvoa sekä esteitä niiden käyttöönotolle. Fokusryhmät valittiin metodiksi koska se mahdollistaa uusien ilmiöiden tutkimisen ja osallistujien vapaan ideoinnin aiheen ympärillä.

Työn teoriapohja yhdistelee aiempaa tutkimusta palveluista, PSS:stä sekä pääsyyn ja jakamiseen perustuvista kulutusmuodoista ja hyödyntää kuluttajan käyttäytymisen teorioita päätöksenteon ja koetun arvon kirjallisuuden kautta. Samankaltaista tutkimusta on tehty muutaman fokusryhmätutkimuksen muodossa aiemmin. Käsillä oleva tutkimus täydentää tutkimuskenttää keskittyen erityisesti tilauspohjaisiin palveluihin ja päivittää tietämyksen tähän päivään noin 10 vuotta aiemman tutkimuksen julkaisun jälkeen. Tässä ajassa markkinoille on ehtinyt tulla uusia PSS -konsepteja, jotka ovat osaltaan muovanneet kuluttajien käsityksiä suhteessa edellisen tutkimuksen tuloksiin.

Työn pääasialliset löydökset näyttävät, että PSS:t kiinnostavat kuluttajia koska ne mahdollistavat omistajuuteen liittyvän taakan vähentämisen kokonaisvaltaisen palvelun avulla. Kuluttajat käsittelevät PSS –arvonluontia vaiheittain: olemassa olevien tarpeiden täyttämisen kautta, toiseksi sen kyvyssä vähentää koettuja kustannuksia ja viimeiseksi, sen luoman kokemukellisen arvon kautta. Esteitä käyttöönotolle on monia, erityisesti liittyen PSS:n luomaan epävarmuuteen ja pelkoon siitä, että palvelutilaus luo uusia koettuja kustannuksia. Esteitä on eniten tuotekategorioissa, jotka ovat matalammat hankintahinnaltaan ja joita kuluttajat tarvitsevat ja käyttävät usein. Työ vetää löydökset yhteen hyödyntämällä mallia teknologian paradokseista (Mick & Fournier, 1998).

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**Avainsanat** Tuote-palvelu systeemit (PSS), tilauspalvelu, pääsyyn ja jakamiseen perustuva kulutus, arvonluonti, kuluttajan käyttäytyminen

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# List of Definitions

## Servitization

- a) term describing the increasing proportion of services in Western economies
- b) transformation of manufacturing and product-based companies into service companies as an answer to tightening competition and changing consumer preferences

## Product-service system

Sub-category of servitization, referring to product being either bundled with additional services or served with a service business model. When offered with service business model, some or all of product ownership based liabilities are switched from customer to service provider. In this case, instead of product ownership, PSS offers functionality and end-results in a holistic service concept.

## Non-ownership consumption

Access- or sharing based consumption model that provides functionality and end-results as a unit of exchange, instead of ownership.

## Subscription revenue model

Revenue model based on providing access to an asset for a fixed periodic fee

## Pay-as-you-go revenue model

Revenue model based on providing access to an asset in line with how much and how the asset is being used

## Focus group research

Semi-structured group discussion method concentrating on consumer attitudes and perceptions of novel phenomena.

# 1 Introduction

In their work “Servitization of business: Adding value by adding services”, Vandermerwe and Rada (1988) argue that services are becoming a central offering across industries, driven mainly by changing consumer preferences. Now, 20 years after the publishing of their work, we see service business models spread, including also more traditional goods-based industries such as razor-blades and men’s hygiene products offered with a continuous subscription offering by Dollar Shave Club. This is also seen in the big picture as services are forming a major part of the Western economy (Pilat, 2000).

Technological development has enabled digitalization of content along with an introduction to service business models to replace product transactions. This thesis explores this development in the context of tangible products, also referred to product-as-a-service models or as a more established term in academia, product-service systems (PSS). This development is found an interesting and topical subject for research based on the following trends: 1) Gartner (2018) has predicted that “By 2020, stand-alone products will be relatively less important to value creation as emphasis shifts toward delivering or brokering holistic and information-rich services”, 2) Functional economy is rising, as value creation is centering on the functionality of resources instead of change of ownership (Rexfelt & Hiort af Ornäs, 2009), 3) The importance of ownership to consumers has decreased along with financial crisis of the 2000’s as well as the rise of environmental concerns (Moeller & Wittkowski, 2010). Furthermore, services replacing product transactions offers a possibility for solving some of the current environmental issues, via increasing resource efficiency in B2C markets.

The thesis has been written in cooperation with the new business development unit of OP Financial Group, the OP Lab. Therefore, it aims at providing food for thought in the context of servitization also outside academia, by providing insights on potential end-user’s readiness to try new services and especially perceived barriers that can be mitigated with service design. The work therefore aims at creating a basis for new service development in traditional product based industries while maintaining a customer-oriented view on the matter.



## 1.1 Context and Scope of the Study

Examining tangible elements of services and products provided with service business models is a more novel concept in B2C sector and has recently been researched under the concept product-service system (PSS). PSS is a subcategory of servitization and according to Goedkoop et al. (1999) among other authors, it is a “combination of products and services in a system that provides functionality for consumers and reduces environmental impact”. Providing functionality, i.e. utilization value and access over transactional value and ownership, is a useful definition for an examination of the servitization development that this thesis is set out to explore. Furthermore, the definition provided in the most recent services marketing paradigm service-dominant logic by Vargo & Lusch (2004) sees product as not something different from services, but only a tangible carrier of value and therefore a service itself. This definition will serve as the theoretical lens through which to look at services in this work.

As founded in previous works examining consumer adoption of PSS, consumers might not consider PSS any different from other services (Rexfelt & Hiort af Ornäs, 2009). However, factors that differentiate PSS adoption from simple product vs. product or product vs. service evaluations, appears in the notions toward product ownership and perceptions towards switching to non-ownership consumption models. Attitudes toward ownership affect the level of interest toward accessing instead of owning products. Different kinds of products are given different meanings by consumers in terms of ownership, creating requirements for PSS offering and affecting attitudes toward accepting new PSS models. Therefore, the thesis also introduces previous literature about ownership and non-ownership consumption as an addition to previous literature about services and PSS.

One way of identifying service businesses is by examining what they charge for, e.g. goods businesses may have value adding services in their offering, but their revenue model is still based on the exchange of goods (Pine & Gilmore, 1998). Subscription business model, that offers a periodic access to an offering with a fixed, e.g. monthly repeating fee, has appeared in the transformation of many industries (e.g. music in Parry et al. (2012) and books in Hsiao & Chen, (2017)) from goods to service offering and it supports well the intangible nature of services. Subscription revenue model usually leads the consumer to pay for the access or end-results of using the product, limiting the focus to not all identified types of PSS, but to only those that include non-ownership consumption models, or as defined by Tukker, (2004) – use-based or result-based PSS. Therefore, this thesis sets out to explore

subscription PSS concepts that switch the ownership of products from consumer to service provider and present consumption models based on accessing and sharing of tangible products.

## 1.2 Objectives and Contribution

This thesis investigates the change occurring in consumer preferences toward adopting new subscription PSS concepts. Mont (2002b) and Vandermerwe & Rada (1988) have identified the change occurring in consumer preferences as among the main factors affecting the spread of services across industries, i.e. servitization. The concept of servitization has been well-researched in B2B context from organizational perspective (see e.g. Kanninen et al. 2015 Penttinen & Palmer, 2007). Corporate customers many times prefer service contracts over ownership in order to mitigate risk and for more efficient use of capital. In consumer's mind service subscription involves different kinds of risk and perceived uncertainty noteworthy to explore in order to shed light on servitization development. However, B2C context and consumer preferences in the field of services and PSS have had less emphasis in previous research, and e.g. Rexfelt & Hiort af Ornäs (2009) and Ostrom et al. (2015) have identified via their literature reviews a research gap in the matter.

This thesis aims at filling this gap by answering the question: *“What kind of value and barriers consumers perceive in adopting subscription PSS concepts?”* by utilizing theories in decision making and perceived value literature. These theories are chosen to fulfill observations made in a focus group study conducted in this work for gaining understanding to the complexities of human decision making. In addition to this, previous findings in product vs. service evaluations, PSS adoption and willingness to subscribe are reflected on the findings that are gathered in the empirical part of this thesis. The study is explorative in nature, and therefore generalizing results requires a large sample descriptive research. Therefore the findings of this thesis will serve mainly as a background for further analysis to the subject.

The amount of previous work on consumer adoption of PSS is small, however very relevant for the thesis at hand. For example, Rexfelt & Hiort af Ornäs (2009) conducted a focus group study to define value and barriers consumers perceive when adopting new product-service systems. Catulli (2012) built on this work to further examine the negative aspects of adoption and barriers via the notion of uncertainty. These findings are going to be referred to in this thesis and expanded upon by focusing on subscription services as a

category of PSS. By doing this, the thesis establishes a view across a broad range of product categories and comes to emphasize experiential aspects in terms of PSS value creation that have not been found in previous focus group studies. The thesis also answers Catulli's request to replicate his study on preferences for PSS adoption in another geographical area. Additionally, as consumer preferences evolve with time, it is found relevant to restate some of these questions now 10 years after publishing these works to see if new digital technologies and appearance of new service concepts have had an effect on consumers' attitudes. This timing is of importance, as launching new PSS concepts and eco-efficient services also serves as a way to change consumer attitudes (Meijkamp, 1998).

The thesis is the first study to concentrate on subscription services with an explorative take on consumer preferences. The benefits of subscription revenue models are clear for companies, including predictability of cash-flows and potential for higher level of customer retention. However, consumer preferences toward the revenue model have not been researched with an aim to find reasons behind certain behaviors, i.e. with an explorative take. The previous research base in B2C subscription revenue models consist mainly of large sample quantitative studies that aim at explaining willingness to subscribe via correlations between specific aspects of service offering and pricing with different target segments see e.g. Chen et al. (2018) and Hsiao & Chen (2017). Although useful, there is a need for explorative studies to find reasons (irrational decision making, values, attitudes, habits etc.) behind the findings of these quantitative studies. Therefore, in addition to validating and expanding upon previous research on PSS adoption, this thesis completes the field of subscription service research with an explorative take. In this area it aims at providing findings that are relevant for designing optimal subscription service offerings and raising consumers' interest towards them.

### **1.3 Methodology**

An exploratory focus group research is chosen as the method for studying consumer perceptions towards subscription PSS adoption. Focus group is essentially a semi-structured group interview moderated by the researcher or an assistant (Puchta & Potter, 2004). The approach is qualitative and therefore aims to research "meanings, concepts, definitions, characteristics, metaphors, symbols and descriptions of things" in relation to quantitative research aiming to present quantities and measures of things (Berg, 1989). Benefits of the focus group approach stem from its exploratory nature suitable for an examination of new

phenomena, with concepts not familiar to many of the participants. As a qualitative method, the results are not generalizable but can be used as a basis for a further quantitative large sample study.

In researching consumer preferences, their beliefs and doubts (regardless of whether they are relevant or realistic) are an important source of perceived value and costs of PSS and determinants and barriers to subscribe. Via discussion, participants gain a mutual understanding of the concepts, while their thought process can be documented, and therefore the sessions are found a great fit for gaining understanding to the topic. Also as noted by e.g. Petrick (2002) and Zeithaml (1988), value is perceived in very different ways among consumers and therefore a semi-structured interview technique is considered most viable, in order to gain consistent and reliable results.

In this thesis, five focus groups are formed to which four hypothetical service concepts are presented and discussed among the group. The session agenda is designed with the aim of sparking conversation regarding how realistic and relevant the hypothetical service concepts are and which value and barriers participants consider in adopting them. Four of five groups are formed from OP Financial Group's employees across a broad range of expertise. For comparison, one group is formed from Turku AMK second degree students, who are more experienced in such concepts via their field of studies. The groups consist of four to six participants and the sessions lasted for 1,5 hours. The sessions were recorded and transcribed afterwards. A more detailed description of the practicalities and results of the focus group sessions is provided in chapter 4 Focus group study.

## **1.4 Structure of the thesis**

The thesis is structured as follows: first some of the main service definitions are stated mostly based on the difference between products and services. The thesis then proceeds to introduce the main concept of interest – the product-service system. As a subcategory of product-service system the most relevant definitions and previous research on non-ownership consumption is provided. To gain tools for examining changing consumer preferences in terms of servitization, the relevant research under themes of human decision making and perceptions of value are provided. These theories have been used also in previous studies of willingness to subscribe and PSS adoption, as introduced in chapter 2.3 Previous findings.

Empirical part of the thesis starts from chapter 4 Focus group study, where the focus group methodology and practicalities are presented. After this the results are presented in

terms of the main themes identified from focus group discussions: consumer preferences for PSS adoption per each product category, preferences for changing from products to services, notions towards subscription revenue model and notions towards ownership and non-ownership consumption models. The thesis wraps up the main findings in chapter 5 Conclusion including discussion of the findings, limitations of the research as well as suggestions for future research.

## 2 Theory

This section will provide an introduction to the relevant definitions and theories that are used to analyze consumer preferences toward subscription PSS adoption. As the chosen approach is explorative, this theory-base has been formed hand in hand with focus group facilitation and analysis of results, although it is introduced separately of the empirical part of the work.

As PSS is a rather young concept, it is found relevant to combine previously founded knowledge of consumer preferences for adoption from other research streams. It is found that non-ownership consumption presents similar consumption behavior that is based on accessing instead of owning, as included in some of PSS consumption. Therefore it is chosen as one of the theory streams, supported by consumer perceptions of ownership. Additionally, this work assumes that a decision to subscribe to PSS in more traditional product-based industries is a product vs. service evaluation for consumers and therefore relevant theories in the field of services marketing are used as a basis for the exploration. PSS, product vs. service decisions and non-ownership consumption are researched with tools that are found from consumer behavior studies, including decision making and perceived value. These streams have been chosen as the tools for analysis, as they help to realize which factors in PSS affect consumer decision to subscribe positively and which negatively, with the aim of finding perceived value and barriers for subscribing.

### 2.1 Definitions – from products to services

Examining PSS and servitization via consumer preferences, the thesis focuses on how consumers see services differently than products and what value or barriers they find in switching from their previous consumption behavior of product transactions to service subscription. The following sections provide a brief review of definitions and previous academic literature on the change occurring with the shift from product-based business models to service-based business models. This includes an introduction to services literature progressing towards the definition useful for this thesis today – the service-dominant logic. After this the chapter proceeds to provide background for the core definition of the business models that are investigated in this thesis – the product-service system, after which one of the main behavioral and cultural changes that are expected from consumers for adopting these models – non-ownership consumption.

### 2.1.1 Products and services

Service is an abstract concept and researchers have traditionally aimed at defining it based on its differences as compared to products. One of the most well-known frameworks in this respect is the IHIP –framework that defines services compared to products as *intangible* (processes and experiences), *inseparable* (simultaneous service provision and consumption), *heterogeneous* (always different depending on the customer and context) and *perishable* (cannot be inventoried) (Zeithaml et al. 1985). Similar differentiation is identified in many other studies of the time, succeeding in providing clearance to main features of services. For the research question of this thesis this means that the identified factors in IHIP-framework make services a more abstract concept compared to products, causing increase in perceived risk and uncertainty among consumers. In fact, it has been found in previous research that consumers prefer products over services because of their nature that is easier to understand and grasp (Fortin & Greenlee, 1998). However, with a closer look it can be found that not all services fulfill these factors (see e.g. Lovelock & Gummesson, 2004), e.g. fast-food chains have succeeded in making the service process rather homogeneous and with the addition of product to the equation with PSS, there are aspects that can be inventoried in the service offering.

Later on the dominant paradigm has shifted from product vs. service comparisons to emphasize the notion of customer relationships. Raval & Grönroos (1996) stated that the customer relationship in itself is valuable and should be taken to the center of attention and therefore the notion of value should be added with relationship costs and benefits. According to this relationship marketing view, each company should focus on minimizing their relationship costs while improving customer performance. They reason this approach with other value-adding strategies becoming obsolete with time as customers come to expect more and more of value adding services / products to the offering over time. This brings to the attention consumer commitment and retention (Bansal et al. 2004) and switching costs (Burnham et al. 2003). Attention to continuance of customer relationship with services and services marketing is relevant for the examination of subscription service contracts in this thesis. Additionally, establishing closer relationships with customers is founded to be in crucial role when positioning a company toward a product-service offering, both as a mean for servitization as well as the outcome itself (Penttinen & Palmer, 2007).

In the 2000's, services themselves got put to the center of attention in all offerings with the services marketing paradigm service-dominant logic by Vargo & Lusch (2004). S-

D logic looks at company value creation and offering as co-creation with customers and states that this co-creation occurs also in the consumption of products (one needs someone to use the product in order to reach an outcome). This logic states that it is about the value that is being co-created with customers that matters and that a tangible product can be a carrier of this value, and hence a type of service itself. Therefore, the difference between services and products becomes less relevant, arguing that all offerings are essentially service offerings. In the next section the main principles of the paradigm are explained, as based on the differences in the old goods-dominant and the new service-dominant paradigms according to Lusch & Vargo (2008).

Considering an offering mainly as service, not a good, the tangible elements of an offering are in fact just mechanisms for service provision. The value being produced in interaction with the customer is mainly intangible, based on the notion that goods are used to create an experience, e.g. providing the resources to solve a problem for customers (e.g. a hole in the wall instead of selling just a drill). Value concept of S-D logic is based on the notion of co-creation of value with customers, i.e. value-in-exchange as customers always have a role interacting with the provider. Tightly linked to this, Vargo and Lusch established a concept of operant and operand resources, defining operand resources as (usually tangible) resources that need something to be done with them in order to produce an effect (e.g. the drill) whereas operant resources as (usually intangible) resources that produce an effect themselves (e.g. knowledge and skills). This paradigm further influences companies' marketing strategies (Lusch, Vargo, & O'Brien, 2007)

In this thesis, the definitions and concepts of value of S-D logic and relationship marketing provide a basis for the examination of PSS from consumer perspective. This is based on findings of Barnett et al. (2013) that servitization requires this same paradigm shift from value adding services to value co-creation with customers. This frames the subject of the research to "subscription services that include a tangible element in the offering not owned by the customer(s) (PSS) and that co-creates value in a continuous relationship with the customer(s) via exchanging functionality instead of ownership." The upcoming chapter provides a more detailed definition for these kinds of products under the term product-service system (PSS).



### 2.1.2 Product-service systems

We are currently experiencing an escalation of service economies, also referred to as *servitization* (Vandermerwe & Rada, 1988; Mont, 2002a). Servitization refers to the process of manufacturing companies adding service elements to their offerings as well as increased proportion of services in the economy. Manufacturers' motivation to add or transform their businesses towards service business stems from changing customer preferences and tightening competition (Vandermerwe & Rada, 1988). The ways to implement servitization in a company differ and much of the servitization literature considers ways to manage this transformation and recommended approaches have been identified in previous literature (see e.g. Kanninen et al. 2017). PSS is by definition a special case of servitization (Baines et al. 2007) and it serves as a possible resulting offering from the servitization process. As first defined by Goedkoop et al. in 1999, PSS is "product(s) and service(s) combined in a system to deliver required user functionality in a way that reduces the impact on the environment". The focus of PSS in this research stream is therefore on selling functionality and use of a product instead of exchanging the ownership of the tangible product, as emphasized e.g. by REXFELT & HIORT AF ORNÄS (2009).

As can be seen from Goedkoop et al.'s definition, PSS term has its roots in sustainability. When selling use and functionality instead of transacting products, companies are better able to focusing on dematerializing their offering and therefore reducing material streams without giving up on their economic objectives (Mont, 2002a). As the functionality of a product comes to the center of interest, it comes to transform the concept of consumption to a broader form, including concepts like sharing and pooling resources. Naturally, sharing resources makes the use of the tangible resources more efficient, e.g. a car in a shared use is being used for value creation much more frequently than in individual use. Also, PSS consumption is based on a service contract that aligns the interest of company and consumer in terms of lengthening the life of a tangible resource used i.e. instead of focusing on the sales volumes it is beneficial to the company to have a long lasting tangible resource in use. Although topical and relevant to building a sustainable economy, the focus of this thesis is in PSS's ability of exchanging functionality i.e. offering access over ownership and the fit of this concept into consumer attitudes, habits and preferences.

Recent research has identified different types of PSS, the main categorization defining three (see e.g. Baines et al. (2007)): product-based, use-based and result-based. Product-based PSS is focusing on the product as the unit of exchange and sees the service element as

an addition to the product, e.g. maintenance or insurance bundled with a car. Use-based PSS exchanges access to a resource, e.g. in the form of renting or leasing a car. Result-based PSS is the most futuristic one, and focuses on the exchange of end-results, e.g. a shared car service charging for minutes or kilo meters the car has been in use. Tukker (2004) further identifies eight sub-categories based on this categorization, as presented in the figure below:

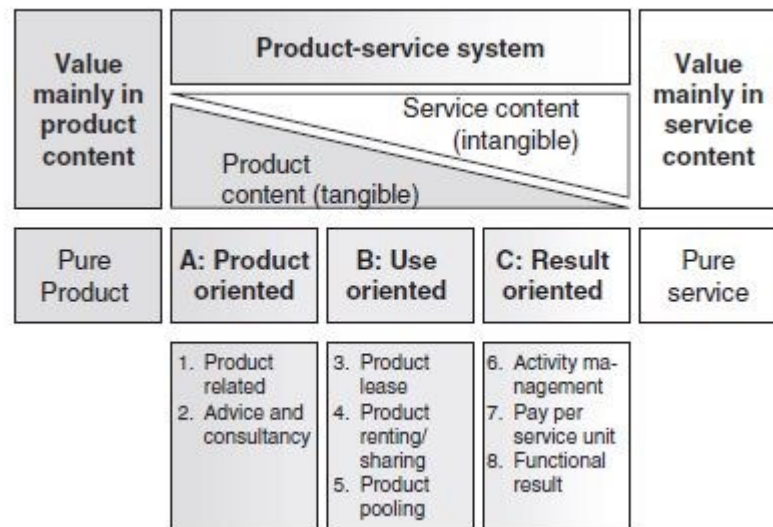


Figure 1 Types of PSS (Tukker, 2004)

1. Product related service = product bundled with additional services that create value in for product use, e.g. maintenance or financing. Product ownership from provider to customer is the core transaction.
2. Advice and consultancy = product bundled with advice and consultancy services that enable the most efficient use of the product. Product ownership from provider to customer is the core transaction.
3. Product lease = customer pays a regular fee for the use of product. The provider owns the product and is therefore responsible over repair, maintenance and control.
4. Product renting / sharing = customer pays a regular fee for the use of product that is *sequentially* used by different users. The provider owns the product and is therefore responsible over repair, maintenance and control.
5. Product pooling = customer pays a regular fee for the use of product that is *simultaneously* used by different users. The provider owns the product and is therefore responsible over repair, maintenance and control.

6. Activity management/outsourcing = customer pays for a part of their activities being switched under the responsibility of the provider
7. Pay per service unit = customer pays for the output of the product, e.g. pay-per-print services of copier producers. Provider takes over all activities needed to maintain the function of the product.
8. Functional result = customer pays for the delivery of a previously negotiated result from the provider. The provider is completely free as to how to deliver the result, customer pays for the result, not of the carriers of that result whether it be products or services.

Within the broader categorization, types 1-2 are product based, types 3-5 use-based and types 6-8 result-based PSS. The proportion of intangible elements in the offering increases the further one proceeds down the list simultaneous with increases in responsibilities for the service provider. This focus group research concentrates on the use-based and result-based categories of the listing.

The PSS term is rather young as Goedkoop et al. first founded it in 1999. In a more recent work Pawar et al. (2009) conducted a multidisciplinary literature review and suggested that the same theory and meaning has been around for much longer, only with different terminology and under different research streams. The streams combined under researching combinations of products and services are *product service systems*, *integrated solutions* and *experience economy*.

The research stream of *product service systems* according to Pawar et al., (2009) focuses on the environmental side of servicising, i.e. eco-efficient services and circular economy business models. The basic concepts of this stream are presented earlier on in this chapter by Goedkoop et al. *Integrated solutions* focuses on the manufacturer's perspective and financial viability: how a manufacturing company should organize its offering and operations to successfully adding service elements. The stream emphasizes the benefits of servicising to manufacturers and argues that manufacturers benefit from forming service solutions (Oliva & Kallenberg, 2003). *Experience economy* stream of literature focuses on co-creation of value with the customer via creating an environment that turns the offering into a memorable experience. It presents that we are moving from product economy to a service economy and further into the experience economy via emphasizing the importance of customer experience in service delivery (Pine & Gilmore, 1998).

In all of these, a transition toward a product-service system based offering is recommended but the motivation to do so differs (environmental, financial or co-creation of value). All three definitions are useful for their own means in each identified research stream, *product-service system* pressuring development based on environmental agenda (see e.g. Meijkamp, 1998), *integrated solutions* emphasizing organizational perspective especially in B2B context (see e.g. Baines & Shi, 2015 and Benedettini et al. 2015) and *experiential services* as continuation to S-D logic especially in the B2C context (see e.g. Sundbo, 2009). With this broader context, the main definition of PSS used in this thesis is that of Mont (2002) similarly as in the work by Pawar et al. (2009): PSS is “a marketable set of products and services capable of jointly fulfilling a user’s needs”. This definition does not raise one research stream of PSS over others.

As consumer perspective is of main interest in this work, many of the concepts under *experiential services* are going to be used in the focus group research. It must be noted here, that as PSS separates products from services by definition it contradicts with the previously presented philosophy of S-D logic. Therefore, it should be specified that the main goal of PSS in this thesis is identified as providing a holistic service to customers and products are seen to carry a potential for reaching outcomes for consumers. Bringing in the notion of experiential value and experience economy, customer experience comes to the center of interest where service delivery is seen as a theatrical performance (Pine & Gilmore, 1998). In this context, the thesis is set out to explore whether this philosophy fits consumer’s mindset today and how to establish such PSS concepts in practice.

### 2.1.3 Non-ownership consumption

Examining consumer preferences in subscribing to services that switch the focus from owning products to accessing them, requires introduction to the relevant theories behind ownership. For a long time ownership was considered the main unit of exchange, however according to many authors, along technological development (internet, e-commerce, mobility), rise of environmental concerns as well as cost consciousness brought by the economic crisis in 2008 this notion has evolved. Thereafter, new models based on accessing, sharing and pooling resources have become more in common (see e.g. Moeller & Wittkowski (2010). The decrease in the value of ownership has been identified in more early studies, e.g. in terms of renting as consumption behavior by Durgee & Colarelli O’Connor

(1995). This chapter provides a brief background into ownership and forms of non-ownership consumption: access-based consumption, sharing and pooling.

Ownership is a legally binding arrangement that gives one or many persons / institutions an absolute control over an object (Moeller & Wittkowski, 2010). Possessions are things that consumers call their own and therefore the term refers to the psychological sense of ownership. Traditionally, possession is viewed as the ultimate expression of consumer desire and as a contributor to and reflection of consumers' identities - "we learn, define and remind ourselves of who we are by our possessions" (Belk, 1988). Also Richins (1994) states that possessions are consumer expressions of their material values. Only recently, this notion has been questioned on some parts.

In 2008 Yu Chen published a work that examines differences between possession and access via consumption habits of contemporary art, arguing that there are two distinct consumption modes: art collection (possession) and art exhibit visits (access). These two consumption modes are further based on different desires and value perceived by consumers. The work concluded that possession is not the ultimate expression of consumer desire as was stated earlier. Another more novel research introduced the concept of *liquid* relationship to possessions, taking global nomads as an example of a group that attaches themselves less with material goods (Bardhi et al. 2012). Additionally, consumers can establish a perceived sense of possession to an object (Belk, 2014), blurring the line between ownership and access from consumer perspective.

Access-based consumption is based on the company owning the resource that is then offered to the customer to consume based on a service contract. Therefore, it is the service that the product can provide, rather than the product itself that is being evaluated by the customer (Watkins et al. 2016), also expressed under the term *instrumental materialism* by Durgee & Colarelli O'Connor (1995). According to Moeller & Wittkowski (2010), consumers are driven to non-ownership consumption determined by the *importance of possession, experience orientation, price consciousness, convenience orientation, trend orientation and environmentalism*. If possession is important to e.g. building one's identity, it is less probably consumed with an access-based consumption model. Additionally, consumers that are very price conscious, seek for convenience and aim to keep up with trends, are more eager to access rather than own resources. Access-based consumption decreases the sense of risk related to owning an object, also referred to as burdens of ownership (e.g. in terms of product selection, maintenance responsibilities and infrequent

use) (Moeller & Wittkowski, 2010) while fulfilling consumers' functional and situational needs (Bardhi & Eckhardt, 2012).

Access-based consumption includes not only a switch in ownership from consumer to service provider, but also forms of sharing and pooling objects among other customers. As resources are usually used more efficiently when accessed by more than one customer over time, it is considered more environmentally friendly. Belk, (2007) defines sharing as "the act and process of distributing what is ours to others for their use and/or the act and process of receiving or taking something from others for our use". Pooling thereafter is sharing while the resource in question is consumed simultaneously with other consumers, e.g. Uber pool rides shared with other users going to the same direction or destination. The concept of collaborative consumption ties access-based consumption, sharing and pooling together, since it involves more than one consumer and the services are usually based on renting or leasing. According to a later work by Belk (2014) collaborative consumption is "people coordinating acquisition and distribution of a resource for a fee or other compensation". Examples of collaborative consumption models include Airbnb, Zipcar and Uber, where consumers are coordinating the offering as well as consumption together – hence the notion of "two-sided consumer" (Ertz, Durif, & Arcand, 2016).

Based on the work by Yu Chen in 2008, Bardhi & Eckhardt (2012), studied the nature of access. Contrasting it to ownership and sharing in B2C context, they found six dimensions of access-based consumption: *temporality*, *anonymity*, *market mediation*, *consumer involvement*, *type of access object* and *political consumerism* and argued that any access-based offering can be defined based on these dimensions. They noted that the main difference between ownership and access stems from the rules that govern the access to the object. They argued that Chen's findings based on art collectors and exhibitions implies to functional products based on findings in the context of car sharing (not only experiential and cultural as in consumption of art). Next, these dimensions are presented in more detail:

Temporality: access-based consumption is more temporal than that based on ownership. Access can be short-term (e.g. hotel room) or long-term (e.g. Netflix subscription).

Anonymity: consumption can be private or public. In private consumption consumers gain an exclusive access (e.g. hotel rooms), in public consumption models the access is social (e.g. library, couch surfing). Access-based consumption differs also in terms

of the relationship between the consumer and the object, i.e. in settings closer to home, consumers may perceive higher sense of possession (e.g. shared car regularly parked in front of one's home).

Market mediation: from profit (e.g. Airbnb, Netflix) to not for profit (e.g. peer-to-peer exchange and public libraries)

Consumer involvement: from limited involvement (e.g. hotels, car rentals) to extensive involvement (e.g. car sharing including picking up, cleaning, filling up gas to the car).

Type of access object: from experiential (e.g. art exhibition) to functional access objects (e.g. rental car) and from material objects to digital objects. Access to online objects are closer to sharing than with material objects, as they are more fluid in nature.

Political consumerism: access-based consumption may be politically motivated, e.g. bike-sharing programs motivated by environmental values. The political aspect may shape consumer identification and relationship among users.

Based on these dimensions, different access-based services can be analyzed and conclusions can be drawn about their current service design decisions and possible barriers and drivers for consumer adoption. As an example, based on these dimensions, Zipcar car sharing concept was identified with issues of a weak brand community and that users treated the cars badly, based on its anonymous, market-mediated concept with limited consumer involvement.

## **2.2 Consumer behavior**

Previous literature useful in analyzing customer perceived value and barriers for adopting new PSS subscription services is found from research streams focusing on human behavior and psychology. This stream is relevant based on the general notion that when evaluating differences between products and/or services or products and services, consumer decision making is irrational and not solely based on rational cost calculations (Fortin & Greenlee, 1998). Therefore, the aim of this chapter is to provide a basis for this seemingly irrational

behavior and build the basis for focus group research by introducing the relevant previous literature in the field of consumer behavior and perceived value.

First, theories explaining consumer intentions and choice are presented after which they are added with a framework of technology adoption from consumer perspective. This is relevant for the study at hand, as new subscription PSS generally utilizes digital technologies and the stream has identified many barriers that fit well into considering barriers for new service adoption in general. After building the basis for consumer behavior theories, theory basis is introduced in the field of marketing, where perceived value is considered the main criteria of customer choice and business success. This section ties the examination into previously presented S-D logic and experience economy, to which customer co-creation of value is of central interest also in PSS research. The introduction to perceived value starts from presenting the many definitions it has (no one definition holds all current knowledge of the phenomenon). After this, the perceived value frameworks that are most relevant for the research problem at hand are presented, some of which utilize consumer intention and choice models presented earlier.

### 2.2.1 Decision making

There is a wide array of consumer decision making theories, of which only a few are presented in this chapter, based on relevance for the study at hand. Motivation to do



Figure 2 Maslow hierarchy of needs (Maslow, 1943& 1954)



something is a critical step preceding a decision to act and a widely accepted theory of human motivation is that of Maslow's (1943, 1954). Maslow examined in his 1943 work what motivates people and found out that people aim to fulfill different kinds of needs with different priority levels one by one based i.e. when one need level is fulfilled they move on to the next one. This developed in 1954 into Maslow's hierarchy of needs (Figure 2) stating that for everyone, there are five levels of needs: 1. Biological, 2. Safety, 3. Social, 4. Esteem and 5. Self-actualization. Maslow found out that the need level in question at a specific time becomes more relevant and the accomplished one less relevant, helping the person to focus on the next level in question and move up the hierarchy.

Everyone desire and are capable of fulfilling these need levels, however according to Maslow only around 1% of the population will achieve the level of self-actualization. Maslow's hierarchy is relevant especially in explaining the development of moving from product economy to service economy and further towards experience economy. Appearance of experience economy in the Western world entails that consumers have achieved most of their 1-4 level needs rather well, to start seeking fulfillment from experiences.

Another widely used theory in explaining and understanding motivational influences of behavior is Fishbein & Ajzen's Theory of Reasoned Action (TRA). According to TRA, attitudes and subjective norms (i.e. what is considered right in one's social circle) determine human intentions, which further leads to decision making. Decision to do something is formed by combining beliefs of the consequences of actions and beliefs of opinions of the social circle (normative).

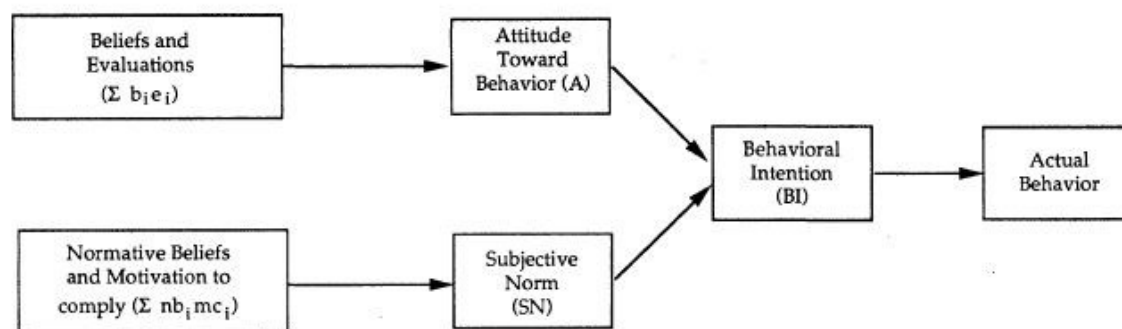


Figure 3 Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975)

Ajzen further completed this theory in 1991, by adding in perceived behavioral control i.e. the extent to which the person believes there might be obstacles or enforcing resources that affect whether the action is successful or unsuccessful. This theory is called Theory of

Planned Behavior (TPB) (Figure 5). With this additional variable, the theory better takes into consideration the context in which the decision is being made, affected by e.g. service design and visual cues of simplicity of use. Also, the perception of how much should the customer learn new behaviors in order to adopt the service, is affecting the level of perceived behavioral control. As adoption of new PSS concepts changes consumer daily routines within the chosen themes potentially in a radical way, TPB is chosen over TRA as the main framework to explain consumer adoption of PSS.

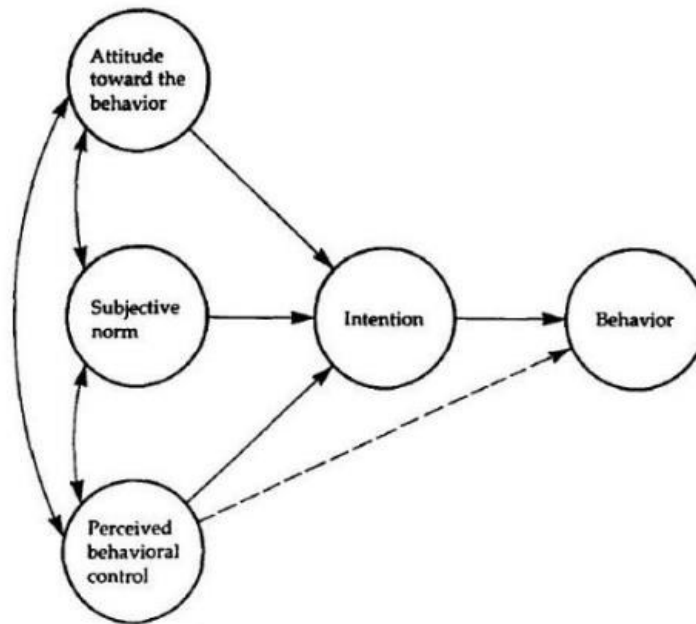


Figure 4 Theory of Planned Behaviour (TPB) (Ajzen, 1991)

The attitude toward a behavior as well as perceived behavioral control have been well described in the context of technology adoption by Mick & Fournier (1998). They identified with a qualitative focus group study, seven paradoxes in how consumers perceive and adopt consumer technology products. Although, technology is not in the center of the subject at hand, it was found relevant for the research problem, as new PSS models usually include and require similar behavioral change. The seven paradoxes are listed and defined below:

- Control / chaos: technology facilitates regulation and order vs. leads to upheaval and disorder e.g. information security issues when misusing technology
- Freedom / enslavement: technological products provide freedom of certain tasks, however at the same time create dependency and gain more power over people's lives

- New / obsolete: a new product is usually quickly obsolete as technology progresses fast. At some point the pressure to buy a new product becomes unbearable and new soon obsolete product is acquired
- Competence / incompetence: technology reflects and extends on the superiority of humans, however this requires that the person is capable of using the technology which might require time and effort in reading manuals and repeating a process of trial and error. Technology has a way of making people feel dumb.
- Efficiency / inefficiency: In many cases, technology saves time from the consumer by completing tasks more efficiently. However, there are many experiences of technological products / services ending up consuming more of consumers' time, e.g. chatting and browsing the net is more efficient with a mobile phone, however the user might find him/herself spending more time with the device than they would have with their previous technology.
- Fulfills / creates needs: technology makes life easier in many ways, however also has a requirement of buying new technology integrated to them to make it work or just buy more maintenance and repair services to go with it.
- Assimilation / isolation: emphasized in communication and media devices and services, e.g. television might make one more connected to the world, but less so to the close social circles physically in the same location
- Engaging / disengaging: based on the notion that human reality is surrounded with applications, buttons and knobs that essentially decrease people's skill levels

These paradoxes affect consumer willingness to adopt new technological products / services, e.g. in the form of fears and beliefs of the effect on everyday life after adoption. For this PSS research, they bring a framework with which to evaluate certain attitudes and concerns toward PSS, whether they be realistic or not. Therefore these paradoxes are found useful in the focus group analysis for grouping both valuable aspects and barriers of PSS adoption for consumers.

Technology readiness index (TRI) by Parasuraman (2000) is further building on these paradoxes, identifying factors that positively or negatively influence a consumer's willingness to adopt new technologies. Parasuraman found the following TRI-factors:

discomfort (-; lack of control, feeling of being overwhelmed), insecurity (-; distrust and skepticism about tech's ability to work properly), optimism (+; perceived increased control, flexibility and efficiency) and innovativeness (+; tendency to pioneer, innovator / early adopter). These factors help to determine different groups of consumers in terms of their willingness to adopt new technologies, however it is important to note that also innovators and optimists experience some of the negative aspects of technology adoption.

Tendency to pioneer and innovativeness of Parasuraman's model can be further explained by Diffusion of Innovation by Rogers (1962). Rogers established in this well-known work that consumers can be divided into groups in terms of how they react to innovations. These groups are: innovators, early adopters, early majority, late majority and laggards. The model proposes that adoption of innovations is a five step process: 1. Knowledge (aware of the innovation), 2. Persuasion (seeks more information), 3. Decision (weighs pains and gains and either accepts or rejects the innovation), 4. Implementation (takes into use and determines its usefulness) and 5. Confirmation (considers whether to continue using via both interpersonal and intrapersonal ways). A successful diffusion of innovation goes through roughly 100% of all these user groups and all the phases of innovation acceptance. As there are not many use-based and result-based PSS in the market, it can be assumed that the majority of consumers are currently in the state of Knowledge in Rogers' model.

### 2.2.2 Value creation - perceived value and costs

Perceived value and costs is tightly linked to decision making frameworks presented in the previous section. As the theories presented in previous sections help in evaluating things consumers consider when making a decision of whether to subscribe to PSS or not, this section sheds light on which factors of PSS are considered positive and which ones negative – i.e. which ones create value to consumers. Value as a term brings the focus from customer psychology to marketing and company strategy, to which value is a central term. Value is generally considered the ratio between perceived benefits and perceived costs (Zeithaml, 1988), although this is not the sole and universally accepted definition. The many definitions and frameworks of customer perceived value have been well researched in the field of marketing since the 1980's. The following section covers the most relevant theory in the area for this focus group examination.

Creating value to customers and stakeholders is at the core of maintaining a successful business. Relying on Zeithaml's definition, value creation is about increasing the customer perceived benefits and minimizing customer perceived sacrifices. What makes this more complex is the fact that for customers, value is subjective and context specific (Zeithaml, 1988): it is perceived differently by different persons and differently by the same person in a different environments or points in time. At the same time, perceived costs have a steeper function than perceived benefits (Thaler, 2008), referring to the phenomenon that losing something is generally perceived a larger effect than gaining something of a similar quantity.

There are many frameworks and views on the sources of perceived benefits and sacrifices. Many of them are very useful for this study, as they help to ask the right questions in evaluating consumer preferences for PSS adoption. Sheth et al. (1991) analyzed cigarette-buying behavior of 200 consumer choice situations and identified five consumption values: *functional* (possession of functional, utilitarian or tangible attributes), *social* (association to social groups), *emotional* (capacity to arouse feelings and affective states), *epistemic* (capacity to arouse curiosity, providing novelty, satisfying desire for knowledge) and *conditional* (result of specific situation or circumstances). They identified that a purchase decision of different types and brands of cigarettes can be influenced by one or more of these consumption values simultaneously.

In a more recent study, Smith & Colgate (2007) describe the value creation phenomenon as a 4 x 5 -table consisting of 4 types and 5 sources of value. Types of value in their framework are *functional* (correct features and performance), *experiential* (experience and feelings), *symbolic* (psychological meaning) and *cost / sacrifice* (relative benefit). The possible sources of these types of value are *information*, *products*, *interactions*, *consumption environment* and *ownership transfer*. These findings are based on a wealth of previous literature on value creation and it is presented especially for the purposes of marketing strategy. As such, the 4 x 5 table will serve as the main value framework of this thesis.

Another dominant stream in the research of perceived value, is the wealth of quantitative studies aiming to explain the interrelation and effects of variables that determine value, e.g. customer satisfaction, perceived price and service quality. These studies are descriptive, large sample quantitative studies, e.g. a five-item measure scale for services provided by Petrick (2002). This scale presents that perceptions of quality affect the purchase decision of the service, after which service experience affects the perceived value of the service via behavioral price, monetary price, emotional response, quality and reputation, all this affecting the repurchase intentions of the service.

Figure 5 provides a visualization of the measure scale for services by Petrick (2002). This scale is useful for the thesis at hand, because it investigates perceived value of services specifically, that assumes that it is essentially different from value creation of products. The visualization shows that value is created in a process with customer participation and shows both factors that add perceived benefits and perceived costs. Here, behavioral price includes time, effort (e.g. search costs), brand image and convenience for consumer while monetary price is purely an economic factor. Emotional price and quality present similar values as presented in earlier frameworks, however the service context adds in the notion of reputation of a service provider as a difference to pure product offerings.

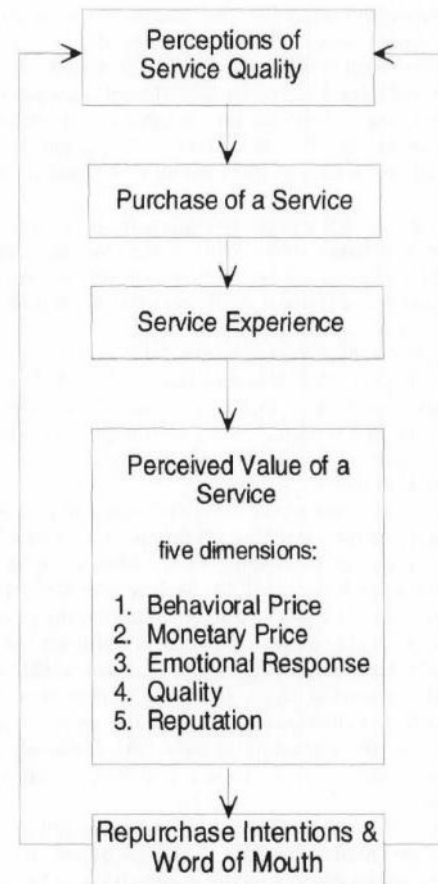


Figure 5 Five-item measure scale for services (Petrick, 2002)

Similar measurement scales and processes are presented in the works of Sweeney & Soutar (2001): PERVAL (19-item measurement scale for consumer durable goods at brand level), Parasuraman et al. (1988): SERVQUAL (22-item measurement scale for customer perceived service quality) and Cronin & Taylor, 1992): SERVPERF (similar measurement scale, excluding customer expectations). Of these, one of the most established ones is SERVQUAL by Parasuraman et al. (1988) that categorizes its 22-item measurements in the following way: *reliability* (performing the promised service accurately), *assurance* (knowledge of employees and ability to inspire trust), *tangibles* (physical facilities, equipment and personnel), *empathy* (caring and individualized attention) and *responsiveness* (providing prompt service). It is generally noted that perceived quality correlates with perceived value, therefore making measurements of quality relevant to the value concept.

It can be concluded that consumers choose to adopt services that create more benefits for them in relation to costs. The value created in this process can be functional, experiential, symbolic or cost/sacrifice (Smith & Colgate, 2007). Perceived costs can be formed of monetary price and behavioral price, the latter one including emotional burden, time, search

costs and other intangible and psychological costs (Petrick, 2002). The theory stream of perceived value and value creation helps to separate aspects creating perceived benefits vs. perceived costs in PSS offering and therefore is used in focus group session moderation. Added with motivation and decision making studies it can be concluded that consumers have a more positive attitude toward services that help them fulfill the current need level in question in terms of Maslow's hierarchy. For this attitude to lead into intention and purchase behavior, PSS subscription should be somewhat supported by the consumer's social circle and the offering should entail a rather smooth user experience (perceived behavioral control), as defined in TPB by Ajzen (1991).

Additionally, it must be noted that not only PSS offering content can affect the perceived benefits and costs of adopting PSS, but also investments put into the status quo (i.e. psychology of sunk costs (Arkes & Blumer, 1985)) as well as the time, effort and emotional burden required to change the current routines, attitudes and habits. This is further explained with previous findings of PSS adoption and willingness to subscribe in the upcoming chapter.

## **2.3 Previous findings in subscription PSS adoption**

As stated earlier, examining the pace of change in servitization phenomenon across different product based industries, one of the main determinants is the change occurring in consumer preferences (Mont, 2002a). This change occurs in the willingness to change from a product based offering to a continuous service and letting go of full ownership of a tangible product. Now that relevant theory base has been presented for products, services and product-service systems and consumer behavior, previous findings of consumer adoption of relevant themes for subscription PSS. First, older studies in product vs. service evaluations are presented to find which offerings are seen a better fit for services from consumer perspective. After this the main previous literature of PSS adoption is covered after which subscriptions are added as a focus with presentation of previous findings in the field of willingness to subscribe.

### **2.3.1 Product vs. service evaluations**

According to Fortin & Greenlee (1998), consumers have two separate evaluation frames, one for product evaluations and one for service evaluations. Consumers are biased towards tangible products over intangible services but at the same time, services are considered higher in quality than products. Fortin & Greenlee (1998), state that this occurs mainly

because of lack of experience in comparing products and services together. Herrmann et al. (1997) stated similar findings in terms of bundled offerings (=holistic offerings including product and service elements) by examining product and service bundling decisions and their effect on consumer purchase intention. They found that the optimal bundle is formed by combining approx. five products/services elements, offered with a discounted price and bundled based on functional integration. Although aiming to find an optimal bundle, they concluded that it is difficult for consumers to evaluate bundles in general. This difficulty is interesting in terms of the research question at hand. The evaluation becomes more complex as there are more elements combined and as the service subscription contract becomes of longer time period.

Also Dholakia & Venkatraman (1993) argued, that consumers are more likely to have a positive perception of a tangible product than an intangible service, based on their research in the context of marketing strategies of bundled offerings. This is because customers provide the functionality of a product themselves (e.g. by cooking a meal with a grill) in the consumption process, regarding this a more clear and less risky offering. However, if there are any negative associations or perceived risk attached to the production side of using the product, e.g. fear of error or stress of physical effort, consumers are more likely to go for a service alternative. They also found, that the more frequent the use of a product is, the more probably both products and services are added to the choice set, as with more frequently used products/services, consumers tend to make more detailed background research into different alternatives in the market. Further, they add that a service alternative becomes more interesting to the consumer, if use of the product/service is less frequent, and therefore provides more relative pains than gains in terms of owning the product, i.e. burdens of ownership (Moeller & Wittkowski, 2010). Interestingly to the thesis at hand, their research concluded that services would be unlikely to be regarded complete substitutes for products as they lack the aspect of ownership. This notion comes to emphasize the importance of using ownership related studies in researching consumer preferences toward PSS adoption.

(Wakefield & Blodgett, 1999) researched the effect of intangible and tangible elements in services, and therefore for the first time combined literature streams from both product and service fields of research. They concluded with their quantitative study, that the physical element (in this case the physical environment of the service situation) is important in creating and enhancing customer's affective responses (i.e. emotional experiences). The physical environment and overall perceived service quality were seen to influence together customer's excitement which strongly influences their behavioral intentions (e.g. purchase



decisions, willingness to subscribe). With this conclusion, the model serves as an extension to SERVQUAL model by Parasuraman, which also has regarded tangibles as one of the categories of its measurement scale for perceived service quality (presented in chapter 2.2.3).

In a more recent research, Planing (2015) argues in the context of circular economy business models, that consumer irrationality is the main barrier for service adoption and identifies the following factors behind this irrationality: *habits and routines* (preference of status quo), *non-functional motives* (enjoyment, social and personal motives), *subjective norm* (the role of relevant others and social circles) and *perceived moral norms*. This leads e.g. to customers' tendency to evaluate transaction costs at the point of sale and not over longer-term customer relationship (e.g. in terms of subscription services), resulting in the consumer preferring ownership of the product over service contract. He argues that if customers were fully rational, they could be easily convinced to buy a service instead of a product.

These results present some of the older paradigms of service marketing that defined services especially in terms of their differences to products. The main findings conclude that consumers traditionally have preferred product ownership over service subscriptions because of the difficulty of comparing them and because of the abstract nature of services. Services are seen a better fit for needs that are fulfilled more rarely, as they then compensate on higher relational burdens of ownership. These notions are relevant, as many times PSS comes to replace a more traditional product offering with a bundled offering i.e. holistic service concept. However, the more recent technological development and digitalization has likely caused changes to consumer behavior hand in hand with de-valuation of ownership in Western cultures (as stated in chapter 2.1.3 of this thesis). This has switched consumer preferences toward service alternatives from product offerings, emphasizing a need for updating the previously presented research. This thesis aims at revisiting these results and providing insights for an update of knowledge into consumer preferences in these product vs. service evaluations.

### 2.3.2 Consumer adoption and value of PSS

This chapter presents previous findings of value creation and consumer perceptions towards PSS adoption. The field of research is rather narrow, as it started to become of interest after the mid 90's forward (Mont, 2002a). This section presents some of the main works done in

the field and the results of this focus group research are going to be reflected on these findings at the latter parts of this thesis.

In his previously presented categorization of eight types of PSS, Tukker (2004) additionally presents value implications these types present for the customer. He argues that the product-based PSS group (product-related services, consultancy and advice) provides some value to the customer via support for more efficient use of materials and human resources. Use-based PSS group (leasing, renting, sharing and pooling) provide some value to the customer via shifting tasks and responsibilities to the service provider along with ownership. However, he states that renting, sharing and pooling in general also create perceived costs to the customer, as he/she has to put time and effort into accessing the products. For result-based PSS (activity management and pay per unit use) many activities are shifted from the customer to the service provider, which creates a lot of value creation potential for customers. From here, it can be found that the more service elements are added to the PSS offering, the more value creation potential it includes towards customers. However, use-based and result-based models are less familiar and in the current market situation, more futuristic in general, causing uncertainty and increased level of perceived risk. For example, clear criteria for results and performance must be agreed with the customer in order to implement the result-based revenue model, i.e. what is the result and its measurement that the customer is paying for.

Some of the first examinations into consumer preferences towards PSS offerings is provided in the work by Schrader (1999). The term PSS has not been used in this work, however the definitions stated for eco-efficient services that include elements of non-ownership consumption come very close to examination of PSS. Via a postal survey, Schrader identifies that the main factors in the adoption of eco-efficient services are: *relative advantages* (in relation to existing product ownership), *compatibility to existing values, attitudes, behaviors and habits* (bigger change creates bigger resistance) and *complexity of offering* (the more difficult to understand and use, the more resistance for adoption). Therefore, current consumption behavior has a large impact on preferences towards adopting PSS, also supported by later research on PSS. Also e.g. Antikainen et al. (2015) and Le Vine et al. (2009) propose that past experiences have a big effect in determining consumers' interest towards new PSS models, stating that consumers adopt more eagerly models that do not require dramatic changes in their current lifestyle, habits and routines.

Rexfelt & Hiort af Ornäs (2009) conducted a focus group research into consumer preferences for PSS adoption finding that most consumers are favorable towards new PSS

models. In their approach, Rexfelt & Hiort af Ornäs put activities to the center of attention, finding that consumers did not care so much for PSS itself but saw it as normal service that was evaluated based on the consequences it would have in their life. Therefore, the previously founded importance of relational benefits of PSS for consumer preferences, was explained in this study especially in terms of consequences of activities that consumers participate in. These consequences are seen by consumers more important than value created with the offering (broader access to better products) and economic factors (more efficient use of capital), although having some relevance as well. They conclude that uncertainty and difficulty of evaluating relational benefits of PSS, i.e. consequences of PSS subscription cause the main barriers for adoption. It is hard for consumers to predict future needs and therefore PSS's impact on everyday life in relation to current ownership-based alternatives.

Three years after publishing of work by Rexfelt & Hiort af Ornäs (2009), Catulli (2012) provided further analysis on the findings of consumer barriers to adopt PSS. Rexfelt & Hiort af Ornäs (2009) state that uncertainty decreases willingness to adopt PSS and is seen in focus group answers as doubts of how to make the service work in practice. Catulli provides further analysis on which factors create this uncertainty. He states that concerns toward PSS are created e.g. via hygiene of the products, available information about the concept (and therefore adoption requiring a leap of trust), respond times in problem situations, product availability when the product is needed, emotional value of possessions and product quality in PSS models. Catulli further adds that consumers are interested in bundles, suggesting additions of warranty, insurance, maintenance, product upgrades, navigation (in mobility services) and delivery to the PSS offering. In relation to previous research, Catulli finds that trust toward service provider (that was found as one of the factors behind explaining adoption of PSS by Rexfelt & Hiort af Ornäs (2009)), was less important when customers were to pay for utility (i.e. result-based PSS) instead of use-based PSS. This is explained via better aligned interests between customer and service provider.

A more recent focus group research conducted about PSS adoption, was done in the context of clothing in Finland by Armstrong et al. (2015). Different clothing PSS models were presented to women and discussed (among other factors) which of the models seemed realistic and which ones most interesting to try out. The scenarios included service concepts based on repair and redesign, take-back, customization, make-it-yourself, consultancy, renting, clothing swaps and fashion result services. The study concludes that PSS is difficult to implement in clothing, because of the changes occurring with removal of ownership. They present reasons behind these issues based on a literature review, being: non-ownership

issues, stigma of second-hand and skepticism about company motives. Most realistic models to the focus group participants are found to be repair and redesign services as well as take-back services.

The research by Rexfelt & Hiort af Ornäs (2009), Catulli (2012) and Armstrong et al. (2015) provide relevant findings for the study at hand and a basis for the results that this thesis aims to replicate and expand upon. The main findings of consumer adoption of PSS can be concluded as follows: previously learned habits and currently consumed products / services matter in determining whether or not to adopt PSS, i.e. the amount of relative benefits PSS is able to provide. This reflects to how easy or difficult it is for consumers to take the role of a subscriber and consider changing their daily routines. Any uncertainty in this matter is decreasing the willingness to adopt PSS and it can take e.g. the form of distrust towards service provider, perception of lack of relevant information and not seeing the service working in general, especially in long-term service contracts. A viable PSS model provides value in economic terms (fits better higher cost products) and is easily available whenever and wherever needed with a large assortment of high quality products. This previous research on the topic sheds light on which factors are most relevant to address in the focus group research at hand.

### 2.3.3 Willingness to subscribe

Subscription is defined here as a revenue model that is based on a fixed, periodic fee paid by the customer to access the company offering. Brought to PSS context, it creates a mainly use-based PSS offering with continuous service contract, with the exception of subscription boxes, that provide an ownership of the product (product-based PSS) with a periodic delivery and fee. Previous literature that is covered in this chapter includes research on fully digital services as well as PSS.

In their investigation into factors affecting willingness to subscribe, Chen et al. (2018) present a model for purchase intention and continuance intention of subscriptions in the context of paid music streaming, (e.g. Spotify). They used consumer behavior theories (as presented in chapter 2.2) and conclude that willingness to subscribe is formed via two phases: the alluring phase and the hooking phase. In alluring phase that is before subscribing, the consumer is driven by attitude, social influence and trust towards service provider. In the hooking phase after subscribing, where the consideration is about whether to continue the subscription or not, the consumer is driven by user interface functionality (and other such

enabling factors of service design) as well as communication control capacity (i.e. factors enabling interaction with the service). The link between these two phases is trust towards service provider, which emphasizes its importance in all communications and service development done by the subscription service provider. A similar study was conducted in the field of e-book services in China focusing mainly on environmental concerns and reading habits (Hsiao & Chen, 2017). The study concluded that perceived value of the service affects positively the willingness to pay for subscription services in books and that perceived price affects negatively to perceived value. Environmental concerns affect positively to user's attitude toward e-book subscription services. The authors did not find evidence to support reading habit's effect on subscribing.

Subscription boxes present an example of a product-based PSS. They usually include consumables (e.g. food, beauty or health products) with a continuous and regular home delivery and a monthly/yearly subscription fee. According to McKinsey's extensive survey research conducted in 2018 for U.S. shoppers, subscriptions are increasing in popularity. The study findings emphasize the importance of references from the social circle in subscribing and the importance of experience aspect in deciding to continue the subscription. This means high level of personalization in the box with the right level of (pleasant) surprise. Further, Woo & Ramkumar (2018) find that users and non-users of subscription boxes differ in terms of their gender, trust toward the service provider and their fashion consciousness (in the context of fashion subscription box).

Relevant for PSS discussion, Danaher (2002) examined the optimal combination of subscription fees (e.g. monthly access fee) vs. usage-based pricing (e.g. pay-per-minute/pay-as-you-go) in services. He concludes that subscription fee has some effect on the usage of the service, but much stronger effect on retention (negative and positive). Usage price on the other hand, has a strong effect on usage of the service and only moderate effect on retention. Customer churn is seen much more sensitive to subscription fee than for usage pricing and in general, consumers are considered much more sensitive to changes in subscription fee level than that of usage price level.

Some of this behavior can be explained by the psychology of sunk cost, suggesting that consumers have an (irrational) tendency of letting past decisions and perceived costs affect the decisions ahead (Arkes & Blumer, 1985). E.g. one time heavy investment to a private car, prevents the consumer from switching to public transportation, even if it was cheaper and more convenient than the car for this specific consumer. Subscription fee is a fixed price for the service that occurs whether or not the service is used, causing pressure to

use the service and continue the subscription, in fear of making the past paid fees feel like a bad deal. However, at the same time changes in the level of subscription fee increases the sensitivity of churn as described in previous part by Danaher, (2002). The rational side of consumer considers always the time limit to when the subscription cost reaches the level of one-time payment for product ownership. According to Fortin & Greenlee (1998) subscriptions are preferred only if there is no such time limit.

When adding subscription revenue model to PSS, the focus is shifted to mostly use-based and some result-based PSS models, except for subscription boxes that present product-based PSS. In subscribing to a service, consumer's decision making is affected by the same factors as with other service evaluations, i.e. attitudes and social influence (as presented previously in TPB), however subscription revenue model adds in the equation the importance of trust toward service provider. It also makes the service contract presumably a longer term customer relationship, adding into the perceived uncertainty of evaluation of viability of subscription. Subscriptions are many times considered viable only if there is no time limit to when the total amount of subscription fees reach the total cost of ownership. In the focus groups study presented next, also low cost products are added to the equation (e.g. clothing), to see how consumers perceive these PSS concepts and whether there would be a way to offer lower cost products with subscription PSS.

### 3 Focus group study

Academic research can be roughly divided into descriptive and explorative research. Descriptive approach aims at describing a situation in detail with the use of measurements and quantities (McNeill & Chapmann, 1985). The research is usually structured so that hypotheses are stated of the expected outcome after which the researcher aims at validating them by using statistical methods and mathematical models (quantitative data and methods). This type of research therefore starts with a theory and aims at fitting it to the phenomenon that is under investigation. Exploratory research on the other hand answers the question “why” and therefore aims at finding new theory (McNeill & Chapmann, 1985). With the use of qualitative data gathered e.g. via interviews or observations, it explores the phenomenon, meanings and metaphors attached to it (Berg, 1989). Therefore, the results cannot be generalized to a larger population unlike with quantitative, descriptive research methods. An exploratory research starts from an idea that one wants to learn more about, whereas descriptive research has stated an expectation of the outcome and aims at validating it with a sample that more or less represents the full population under examination.

Exploratory research fits well into examining new phenomena that has limited research conducted previously. Therefore, this approach is chosen to research PSS adoption, more specifically with the method of focus group interviews. Focus group is a semi-structured group interview technique, commonly used in marketing research, e.g. to investigate the demand potential of new products and services, starting approx. from the 1950's onwards (Puchta & Potter, 2004). A semi-structured interview allows for open discussion around the topic and the session agenda is iterated along the way, whereas a fully structured interview forces the agenda strictly based on previously defined questions. Therefore, although the name might imply otherwise, focus groups are not focused, as the moderator does not aim to control the session, but merely facilitates the conversation. As a group interview technique, focus groups concentrate on interaction among participants and for this purpose, has traditionally been used in applied social research in addition to the field of marketing (Puchta & Potter, 2004). There is not one definition for focus group method; however, what the sessions have in common is that they usually have a moderator that facilitates communication among the group with prepared questions or interview guide (Vaughn et al. 1996).

Berg (1989) lists some advantages of focus group research gathered from various sources, of which the following ones are especially relevant for the research at hand on subscription PSS adoption:

1. More efficient gathering of information in relation to individual interviews
2. Potential for generating important insights into new and not well-understood topics
3. Allows gaining understanding into how focus group participants arrive at conclusions about the topic
4. Allows for reacting to and exploring unanticipated topics and discussions that may arise during the sessions

Therefore, as the concept of subscription PSS is rather new among Finnish consumers, an exploratory approach implemented with focus groups is the best tool for us to answer the research question. Also, as perceived value and barriers are usually understood rather differently among consumers (see e.g. Petrick (2002) and Zeithaml, (1988)), discussion helps to document how participants build a common ground around the topic. The method can be used standalone as in this thesis or as a background research for further quantitative (descriptive) research (see e.g. Rexfelt & Hiort af Ornäs, (2009)).

In the upcoming sections, focus group formation and facilitation of the sessions is presented after which the chapter proceeds to provide an analysis to the results reflected to relevant theory introduced in previous chapters.

### **3.1 Practicalities**

In this chapter, the practicalities of focus group session preparation and facilitation are presented, as well as the reasoning for the decisions made on the way.

As is generally done with focus group research, the first focus group session was held as a pilot session, to see if the originally crafted hypothetical services and agenda for the session worked. No major differences to hypothetical services nor agenda were made after the first session, and therefore the results from the first session are included in the analysis. Any other minor iterations made to the session agenda along the way are described more in detail in the following sections.



### 3.1.1 Focus group formation

Five focus group sessions were facilitated with four to six participants in each group. The objective for these sessions was to get a good sense of a regular consumer's perceived value and barriers towards adopting subscription PSS concepts. To gather results about consumer perceptions words PSS, mainly non-experts in the field were sought for to participate to the sessions.

*Table 1 Focus group participants*

<b>Group</b>	<b>Participants</b>	<b>Previous experience</b>
Focus group 1	4 participants from OP (4 women)	Experiences with subscription and PSS
Focus group 2	4 participants from OP (2 men, 2 women)	Experiences with subscription and PSS as consumers
Focus group 3	4 participants from OP (2 men, 2 women)	Experiences with subscription only as consumers
Focus group 4	5 participants from OP (5 women)	Experiences with subscriptions only as consumers
Focus group 5	6 participants from Turku AMK (1 man, 5 women)	Experiences with subscription as consumers and PSS from studies

Four out of five groups were formed out of OP Financial Group employees with a broad range of different expertise and roles in the company. According to Puchta & Potter (2004), it is beneficial for the focus groups to have a relaxed and informal atmosphere, to get a good sense of participants' emotional reaction and gut feeling of the subject at hand. Based on this, the sessions were held in OP offices in Vallila, to get a familiar and relaxed environment for the conversation. Groups were formed from OP employees, because it provided a good way of reaching a large amount of people from different backgrounds and it was also seen an advantage in terms of embarking conversation via the participants' common ground (i.e. familiar company culture). One group out of five was formed from Turku AMK higher degree students, with experience in circular economy and environmental issues. This was to see if session results would radically differ among groups with different backgrounds and age groups.

Participants were asked a couple of background questions before the session itself, implemented with an online survey tool SurveyMonkey. The online survey was chosen as a tool because it enabled reaching and scheduling sessions easily amongst a large group of people. Survey questions considered mainly of participants' experience with subscription services and with different PSS models in addition to scheduling related questions. After a pilot focus group, it was founded that having both people with and without experience in PSS before (almost all had experience in subscription) did not have a negative effect on the discussion and amount of insights gathered from the session. Therefore, the sessions were held with participants having mixed experiences with subscriptions and PSS. The background questions are presented in Appendix 1.

### 3.1.2 Hypothetical services

To make the conversation about PSS more concrete and easy, four hypothetical service concepts were provided as a basis for discussion. This is based on the notion of Ajzen (1991), that researching intention to do something must be examined related to the behavior in question. Bringing this to the context of the study at hand, one cannot examine intentions to subscribe to PSS in general, but should consider that in its real context, in this case living, mobility, clothing and home appliances. The services were provided to the participants to skim through approx. one day before the session itself. These services are presented in detail in the form they were presented to the focus group participants in Appendix 2. They are also described in Results chapter 3.2.1 along with focus group participants' reactions to them.

Hypothetical services were presented in a table form that included just the basic information to understand the service logic. The text was written in a neutral, non-selling tone to make the services better comparable among each other and to also encourage participants to discuss what they are lacking and what could be added to the concepts in order to make them a viable offering. Also, one of the main objectives of the sessions was to find barriers for adoption, to which the neutral presentation was a better fit. A selling tone was also considered as a viable option, based on a similar study by Rexfelt & Hiort af Ornäs (2009) where it was used to emphasize service benefits. After the pilot session, the agenda was concluded to provide a good basis for thorough discussion also about the benefits and value of the services in addition to barriers for adoption.

Service concepts included a wide variety of PSS models that enabled discussion on two types of PSS: use-based and result-based (see. e.g. Tukker (2004) for categorizations of

PSS). The subscription revenue model was presented in all of them, resulting in excluding product-based PSS out of discussion. The service categories included fields that were hypothesized to be familiar to most people: mobility, clothing, living and home appliances. The services consisted of product and service bundles and participants were encouraged to suggest other additional services that the concepts might be lacking. All products presented non-ownership type of consumption and sharing / pooling was discussed separately as an optional addition.

When needed, the service materials were slightly iterated based on session results e.g. to provide clarity and to emphasize potentially interesting parts of the service. As the thesis is not aiming for generalizable results with focus group approach, slight alterations among groups were not considered problematic. Moreover, in line with the objective of exploring different thoughts and attitudes that subscription PSS might provoke among consumers, it was considered beneficial for the objective of the study.

### 3.1.3 Session agenda

The sessions were held in Finnish that was the participants' and facilitator's mother language. Agenda was prepared with a loose structure of questions and a minute schedule to keep the conversation to 1,5 hours max. In all focus group sessions, the order of issues being discussed was freely formed by the participants, however the facilitator made sure that all questions were gone through and also asked for possible clarifications when found relevant. The facilitator had an important role in leading the conversation back to the agenda if / when it went on a side-track, this however required careful balancing, as relevant observations could also be made from side-tracks. A detailed agenda can be found from Appendix 3.

The session started with a free form introduction to the subject, where the main point was to establish an informal atmosphere. The participants were asked to briefly introduce themselves to the group and for the microphones for later transcription of the session tapes. After this, it was time to go through the services. Participants had skimmed through the brief service descriptions (Appendix 2), so as a sort of warm up question the participants were asked to pick favorite / most realistic / the worst of the service concepts. According to this discussion, three service concepts were picked for further examination in the session. This approach was considered useful, as it was seen from the results that different groups had very different needs, attitudes and life stages, e.g. focus group 1 did not find living-as-a-service concept at all interesting or realistic, however focus group 2 picked it up as the most

relevant and interesting from the start. This approach also enabled to find the most difficult concepts for the groups and as these were chosen to be further discussed, the sessions succeeded in gaining information about consumer perceived barriers to adopt them.

The more specific discussion about the concepts started usually with discussion of how realistic the services were. At this point, participants usually provided examples of any previous experience (or experience they had heard of) regarding similar services. This enabled to find out, how the participants perceived the services, and observe any major misunderstandings. Basing evaluations on previous experiences was expected from previous PSS adoption studies and it helped participants to evaluate consequences of subscription, as founded by Rexfelt & Hiort af Ornäs (2009). Based on these previous findings, the moderation aimed at leading the conversation to the topic of “How would your life be different if you took this service to use?” Many times this was misunderstood as the value of the service among focus group participants, which is in line with findings of Petrick (2002) and Zeithaml (1988). Interesting results were gathered when a purchase decision situation was formed, e.g. by briefly recapping the offering and asking “Would you take this into use for a price of XX e per month/year?” In addition to this, perceived value and barriers for service adoption were discussed separately.

#### 3.1.4 Analysis

Analysis of the results started right after the first session. Each transcription of a session was gone through in terms of the atmosphere and main findings of the session. Findings were first divided into assumptions/requirements that participants stated, valuable aspects of each service and any negative aspects regarding adopting services. These were first grouped per hypothetical service as well as generally without the hypothetical service presented. Early on, it was identified that PSS discussion stem around themes of PSS service offering and potential additional services, subscription payment, non-ownership consumption and sharing. Although these groups have some common factors, this grouping has been found useful for analysis and presenting the results as done in the upcoming chapter.

Notes of each session were further added to one table (Excel), where they were tagged according to the theme they presented (PSS, subscription, non-ownership or sharing) and whether they presented a value, a barrier or an assumption or requirement for the service subscription. These observations were further tagged with hypothetical services they considered as well as a theory base that covered the observation. This way theory was first

brought to the analysis of the results. A large part of the theory base of this work was built at this point, but additional theories were added as new observations were made of the results, in line with general methodologies of exploratory research. After tagging, the table could be filtered and sorted according to themes and categories. This way high-level observations were conducted, e.g. that sharing based category did not include any valuable aspects to focus group participants, but only barriers and assumptions/requirements. From here, proceeding step by step towards more detailed observations, the following chapter was formed to present focus group results in terms of subscription PSS fit into different product categories, product vs. service decisions, subscription fees and non-ownership consumption and sharing.

## 3.2 Results

This chapter presents observations made in focus group sessions. The results provide a look into preferences for PSS adoption from consumer perspective in terms of PSS fit into different product categories, switching from product to service offering, subscription fee and non-ownership consumption including sharing and pooling. These sections cover consumer perceived value, perceived barriers, requirements and expectations in each of the areas, concluding into full view on preferences into PSS adoption.

First, an overview on results per each hypothetical service are presented by presenting a framework combining two variables: level of investment and time frequency of the need. After this the thesis proceeds to show consumer preferences in switching from products to services by presenting a three step phasing into making PSS a viable concept for adoption. Finally, more detailed focus group results in terms of subscription fee and non-ownership consumption including sharing and pooling are presented. The chapter concludes with an overview of aspects consumers consider when evaluating PSS models and concludes the main findings of the thesis by using the Paradoxes of Technology framework by Mick & Fournier (1998) as applied to PSS.

In general, focus group participants' reaction towards the hypothetical services presented was positive. Participants were very eager to let go of burdens of ownership, however replacing this with a subscription and/or sharing based models raised concerns and created the main barriers for adoption. Consumers based many of their attitudes to their previous experiences with different sharing and subscription services. The discussions

generally started with a consideration of whether the presented models already appear in the market. In cases that were more futuristic, and that would require more changes to current infrastructure in general, participants perceived difficulties in imagining their life after service subscription. This was generally perceived negatively, in line with previous findings of Rexfelt & Hiort af Ornäs (2009) and Catulli (2012).

### 3.2.1 Subscription PSS fit into different product categories

The upcoming sections present the findings per each hypothetical service and concludes with generalized observations across categories.

#### **Living-as-a-service**

Living-as-a-service concept brought to the context of vacation houses enables consumers to access a broad pool of vacation houses with maintenance of the houses and other additional services. Focus group participants found valuable especially the release it provides from burdens of ownership, oftentimes referring to a summer cottages in one's ownership requiring lot of maintenance work on a yearly basis, preventing relaxation and free time. This notion emphasizes the importance of additional services in housekeeping. Participants did not find it problematic to let go of the ownership of their current vacation houses, supporting the notion of perceived ownership (Belk, 2007) that refers to consumers perceiving continuous and long-term usage of a resource as if it is in their possession.

Main barrier for fitting subscription revenue model to the PSS concept was brought in by too temporal of a need – consumers are not willing to pay for something that they cannot predict to be benefitting them with the higher cost level assumed for vacation houses. In subscribing to one service provider for providing different vacation house options, the size of the assortment becomes a critical factor. This option was not interesting to participants that travelled a lot around the world, as they perceived that a service concept would remove a critical element of surprise and spontaneity from the trip. On the other hand, participants found the main value of the service concept stemming from the opportunity to gain variability and options for vacation locations and houses, as compared to current rental summer cottage alternatives in the market.

An alternative concept proposed under living-as-a-service concept was a service concept for home. This did not interest most of the participants but raised many concerns and questions. Firstly, having a pool of homes around the world did not fit into any of

participants needs and was contradicting with their current lifestyle. Moving a home was seen as a big hassle taking a lot of effort, and many participants stated that they would moreover rather pay for not having to move their home at all. Therefore, the assumption of variability and updates of a PSS product offering created most of the concerns related to living-as-a-service concepts. Also, the quality of living was seen to be a combination of so many variables (e.g. style and size of house, internet connection, heating) that being able to choose the right kind of home while taking in consideration all the small but critical aspects of good living was seen as uncertain and therefore a risky decision.

### **Mobility-as-a-service**

Mobility-as-a-service comes to replace car ownership and other transportation needs of the participants on a daily basis. In terms of mobility, participants seek especially for certainty in functionality in addition to the service concept covering their spontaneous and temporal needs for mobility. This raised concerns for a subscription revenue model to work and a lot of emphasis was put to the requirement of customizing a service package for one's personal needs. This is because consumer's needs for different mobility options are in tight relationship with their location (of home and workplace) and their situation in life (e.g. having small children or not). It was strongly perceived that a mobility-as-a-service concept with a subscription revenue model would not fit into any special cases and needs, presumably based on participant's tendency to reflect on current mobility solutions available in the market.

Especially private car ownership as a currently used alternative was very hard to compete with any other service concept. Although participants would value decreased burdens of ownership as well as financial aspects of not owning a car, the freedom and flexibility private car provides creates heavy requirements for alternative models. Barriers for adoption are created especially from the need to change daily routines. Also, if one has already invested into a private car, the notion of sunk cost creates psychological burden of changing the status quo, as the cost of the car cannot be re-acquired afterwards because of steep decrease in sales price of a used car.

On the other hand, participants that did not own a car perceived a more unified service concept for all mobility needs an interesting offering. This is because they did not perceive a risk of changing their routines or the model creating new hassle in comparison to their current ways for mobility. However, if a participant did not have a privately owned car, they did not find subscription pricing bringing them much additional value, but moreover

monthly economic burdens. Participants did not want to include in their periodic subscription payment any unexpected costs for their spontaneous mobility needs, but preferred to pay for these separately. They also perceived that if there was a subscription fee for mobility, it must bring with it a bunch of new rules and regulations to learn and follow. This notion was based on previous experiences with rental and shared car services.

The fact that lot of new services are being launched in the field of mobility currently in Finland, raised the interest level towards these concepts. The participants acknowledged that the possibilities for new services stem from the transportation system itself, therefore they were less eager to ideate new experiential or innovative additional services to the mobility-as-a-service concept. One proposal for an additional service was that consumers could propose changes to the transportation system themselves by having an easy tool for sending feedback to the service provider.

### **Home appliances-as-a-service**

Providing home appliances (big and small) with a service business model is the most well-perceived of the presented hypothetical service concepts. This is presumably because home appliances are mostly owned because of their functionality and less include experiential, symbolic and emotional aspects of value creation. It seemed very logical for focus group participants to only purchase the functionality of the gadget or machinery via an access or sharing based model. The participants quickly perceived it logical to leave the home appliance itself out of the focus and concentrate on the outcomes that are wished to be accomplished. E.g. service personnel to come and provide the functionality or food ingredients provided with a cooking related gadgets were proposed as additional services in the area.

Issues raised in home appliances-as-a-service concepts were related to their fit into subscription revenue model. Issues with subscription revenue model are created by combining a low to mid-priced tangible element (e.g. as compared to houses and cars) and temporal need. The periodic fees quickly reach the total cost of ownership for a product and the benefit the fee provides is harder to evaluate if need is only temporal. Therefore, additional services and experiential aspects in the offering become of critical importance. In this, IoT -solutions, broad user support and service packages that help in achieving certain outcomes (as presented in the previous section) were stated as interesting additional services.

Tangible aspects of the offering created concerns in terms of accessing and using the service. It was difficult for participants to imagine a well-functioning way of accessing home



appliances when they needed them, i.e. how and when it is possible in addition to learning to use the product the right way and therefore not breaking it during the acquired access (e.g. clear manuals and broad user support). On the other hand, one of the main value points in the service were the benefits created via non-ownership consumption: participants did not have to keep rarely used gadgets and machinery at home using space in the house and they could be able to try out new machinery and gadgets with lower effort and risk.

### **Clothing-as-a-service**

Clothing-as-a-service concept turned out the hardest for participants to grasp, however at the same time it was considered the most interesting and raised the most discussion. The value and interest in the concept lay in additional services that can decrease consumer perceived costs. Subscription revenue model fit the stream-like offering well, bundled with additional services saving consumers time and effort in their everyday tasks and routines. However, experiential aspects and a holistic service concept becomes of critical importance in this category, as subscription fees quickly reach the level of product ownership.

Majority of the concerns raised for clothing-as-a-service concepts were related to how it would work in practice. Participants valued a large assortment with broad and quick access, however they raised many concerns over the variability and stream-like offering creating too much hassle and requiring effort. This was based on participants' current experiences with shopping for clothing online and having them brought in with a home delivery. The experience is not fully functional in Finland at the time of writing the thesis and therefore it creates barriers for consumers for adoption. At the same time, a service concept seemed to provide a solution for fitting clothing with current wardrobe (in case of home delivery) and using clothing in a more creative way supported by the pressure created the periodic fee paid combined with the broad assortment.

Participants tended to recommended clothing-as-a-service concepts to be targeted especially for consumers that have a temporary need for clothing. This supports the observation that a temporary need is best fit for access-based consumption. These temporary need groups were e.g. small children that grow easily out of their clothing as well as people who need expensive special clothing for their occupation or a stage in life. Brought to everyday clothing and regular needs, the concept got to interest many participants in terms of its ability to decrease burdens of ownership, e.g. space clothing takes in one's home as well as carrying seasonal clothing around from one place to another when the season changes. It was much more difficult for participants to imagine that they could subscribe to

a steady stream of socks and other heavy-consumption clothing. They attached sharing tightly to product lifetime and quality, and pieces of clothing that are more expensive and used in special occasions.

Sharing clothing raised many concerns of hygiene and trust towards other users within the same concept. Although many participants stated that they would be willing to let go of their clothing, they still stated that it would be nice to purchase a piece of clothing out of the PSS concept “if it was very nice”. This entails clothing is attached with emotional and symbolic aspects of value that are hard for participants to put into words.

### **Generalized findings**

The four hypothetical PSS concepts discussed in focus group sessions come to present different sources of value creation and barriers for PSS adoption. The differences are based on the need they fulfill as well as the nature of the offering they come to replace with PSS. It can be found that willingness to adopt access-based consumption models and the concept's potential for bundling in additional services differ especially in terms of two variables: investment level of the tangible element (owned or accessed) and time frequency of need. Investment level of the product in PSS concept affects especially the viability of subscription revenue model, based on findings of Fortin & Greenlee (1998). Time frequency of need is in connection with the viability of access-based consumption models and letting go of ownership of products in line with Moeller & Wittkowski (2010) and Schrader (1999). Therefore the categorizations presented in table below combine theories in services marketing, consumer behavior and non-ownership consumption and comes to show the issues related to fitting PSS to concepts combining these two variables differently.

In Table 2, the presented hypothetical PSS concepts are divided into services that fulfill a temporary or a regular need and to ones that require a high or low up-front investment to gain ownership of the product element in PSS offering. Each cell in the table includes an example from one of the four categories in hypothetical services presented to focus group participants. With moderations, some of the service concepts can appear in many of the cells, however for the sake of simplicity a version of each hypothetical service is provided per each variable combination as an example. With this categorization, it is found that the level of investment and the time frequency of need create differences in requirements and barriers for adoption of subscription PSS concepts. The combination of regular need and low-cost products creates most barriers for subscription PSS adoption.

Table 2 Subscription PSS fit in terms of cost level of tangible element and time frequency of need for consumer

	Temporary / rare need	Regular need
<b>High investment</b>	<p><i>E.g. vacation living-as-a-service vs. owning a vacation house</i></p> <p><b>Subscription fits</b></p> <p><b>Non-ownership consumption fits</b></p> <p><b>Barriers for adoption</b></p> <ul style="list-style-type: none"> <li>- Perceived sunk costs used to status quo: financial</li> <li>- Lack of information for evaluating economic viability</li> <li>- Difficulty of predicting future rare needs for longer term service contract</li> </ul>	<p><i>E.g. mobility-as-a-service vs. owning/leasing a car</i></p> <p><b>Subscription fits</b></p> <p><b>Non-ownership consumption does not fit</b></p> <p><b>Barriers for adoption</b></p> <ul style="list-style-type: none"> <li>- Perceived sunk costs used to status quo: financial</li> <li>- Lack of information for evaluating economic viability</li> <li>- Effort required for accessing the offering / not seeing how it would work</li> <li>- Effort required for breaking current routines and habits</li> </ul>
<b>Low investment</b>	<p><i>E.g. home appliances-as-a-service vs. owning a waffle iron</i></p> <p><b>Subscription model does not fit (requires experiential aspects)</b></p> <p><b>Non-ownership consumption fits</b></p> <p><b>Barriers for adoption</b></p> <ul style="list-style-type: none"> <li>- Fear of the assortment not being big enough and not available whenever and wherever needed</li> <li>- Effort required for accessing the offering / not seeing how it would work</li> <li>- Difficulty of predicting future rare needs for longer term service contract</li> </ul>	<p><i>E.g. clothing-as-a-service vs. owning clothing</i></p> <p><b>Subscription model does not fit (requires experiential aspects)</b></p> <p><b>Non-ownership consumption does not fit</b></p> <p><b>Barriers for adoption</b></p> <ul style="list-style-type: none"> <li>- Fear of the assortment not being big enough and not available whenever and wherever needed</li> <li>- Effort required for accessing the offering / not seeing how it would work</li> <li>- Effort required for switching to non-ownership consumption model</li> <li>- Effort required to breaking current routines and habits</li> </ul>

By generalizing the findings from hypothetical service concepts to the two variables used, it can be found that in cases where up-front investment required for ownership is high, the notion of sunk costs is emphasized. This refers to a situation where previous behavior (in this case previously made investment) affects future behavior, although this might not be

rational and beneficial for the customer (Arkes & Blumer, 1985). Subscription revenue model is generally perceived a good fit for offerings requiring high upfront investment as they decrease perceived financial risk and free capital for more efficient use. Benefits of decreasing other burdens of ownership are not apparent and clear, as an expensive offering provides material for identity building, e.g. in this case in one's home and privately owned car. Low investment products on the other hand, come to emphasize the experiential aspects and additional services required if the offering is provided with a subscription revenue model. This is because a subscription revenue model quickly becomes more expensive than ownership of these products.

Time frequency of need affects heavily to the fit of subscription revenue model as well as feelings of uncertainty created in terms of how would subscribing affect consumer's everyday life. Subscription revenue model is found difficult to fit into temporal needs, as these needs are hard to predict and therefore the viability of the offer is hard to evaluate. Non-ownership models are most highly valued with products to which consumers have a temporal need, as for these needs the burdens of ownership tend to be higher (less value for ownership). For regularly needed products, non-ownership consumption models tend to create more perceived costs in terms of accessing the products whenever and wherever needed. To make subscriptions work for temporal needs, a combination of additional services providing experiential aspects and creation of a holistic service concept is required. In terms of regular needs, a steady and well-functioning stream of products is needed, creating pressure to current infrastructure e.g. in terms of home deliveries. Subscription revenue model is seen a good fit for these regular needs.

Concepts combining low cost products and regular need were the most difficult for focus group participants to grasp and these were regarded as having the most barriers for adoption. This is created by the difficulty to fit in subscription revenue model for lower cost products as well as the difficulty to bring in non-ownership consumption models for regularly needed products. This category requires most effort in breaking everyday routines as well as developments in current service infrastructure in terms ability to access products regularly with e.g. home deliveries. These models are therefore the most futuristic and do not appear in the market broadly today, as compared to PSS models in categories requiring heavy up-front investment and that are needed less regularly (e.g. car rental for occasional use).

The main sources of value are similar across these categories and linger in the potential of decreasing burdens of ownership and providing access to better, broader or higher quality

assortment. Holistic service concept created by bundling in additional services is found valuable especially in its potential to proactively fulfill needs and create new experiences while decreasing perceived costs in everyday life. In order to make the models work, consumers want evidence on how to access the assortment as well as when to access it when needed.

### 3.2.2 From product to service offering

This chapter presents focus group participants' perceptions of PSS in terms of changing consumption from individual transactions of products to a holistic service concept. This is chosen as one of the sections in explaining consumer preferences in adoption of PSS, as in a previous work of the same field, Catulli (2012) and Rexfelt & Hiort af Ornäs (2009) found that consumers do not perceive PSS as any different from other services. Additionally, according to Rexfelt & Hiort af Ornäs (2009), "an ideal PSS is characterized by a good fit with consumer needs, mediating desirable activities and allowing consumer to avoid undesirable ones". In line with these findings, in the focus group research at hand, participants approached the service alternatives in three phases. In order for PSS to become fully viable option for current alternatives and consumption models in the market, it needs to fulfill requirements in:

1. PSS fulfilling customer needs
2. PSS decreasing perceived costs
3. PSS increasing perceived benefits via experiential elements

When providing products with a PSS concept, the need is generally already fulfilled with a traditional ownership-based consumption model. The need fulfilled has to be apparent in order for PSS to even be considered as an option by consumers. In order for PSS to become a viable alternative to the traditional ownership-based model, it needs to create new value for consumers, as presented in phases 2 and 3 either via decreasing perceived costs or adding perceived benefits. This notion of value is based on that of Zeithaml (1988), that value is a ratio of perceived benefits and perceived costs. Phase 2 considers what consumers first grasp of PSS concepts: their ability to decrease perceived costs i.e. make life easier by decreasing / eliminating effort, time and emotional burden from consumption. Phase 3 presents PSS ability to provide additional benefits via adding experiential aspects to the offering.

According to focus group results, the last phase is in the core of making subscription PSS a viable and profitable business model, however it requires the phases 1 and 2 to be fulfilled, when operating in more traditional product-based industries

This phasing is observed from focus group discussions from different depths of discussions and ideation that were possible to build around different hypothetical service concepts. It was very difficult for focus group participants to discuss anything related to services that were not fulfilling a need for them (phase 1), e.g. living-as-a-service with a concept that would offer them a pool of houses around the world enabling them to move to any of them. This concept was very difficult to grasp for participants, as moving their home around the world was not of interest to many. In terms of services that offered alternative ways to fulfill current needs, e.g. clothing-as-a-service, the issues raised stemmed around perceived costs of using a service and the service ability to make consumer's life easier. For example, clothing-as-a-service was not considered interesting because it seemed to increase the effort and time it takes for consumers to pick and use clothing in relation to current ownership-based model (phase 2), therefore it was not interesting to consumers. When a PSS concept was able to fulfill participant needs so that their time, effort and emotional burden stayed the same or decreased compared to current consumption models, participants would consider paying a subscription fee for the service. However, in order to make this a viable business model, experiential aspects were needed (phase 3) in the form of additional services. Experiential aspects are considered the main source of value creation in increasing perceived benefits of PSS concepts, and are able to turn PSS from simple renting to continuous and long-term service contracts.

Next, participant perceptions, assumptions and perceived value are covered for each of these phases and explained on the basis of Theory of planned behavior by Ajzen (1991). After this, a more general listing of participant perceived barriers to switch from products to a service concept is provided.

#### 1. Adding PSS to consumer's choice set

According to Ajzen (1991) Theory of planned behavior (TPB), a *behavioral intention* (in this case subscribing into new PSS offering) can be explained by the combination of *attitude toward behavior*, *subjective norm* and *perceived behavioral control*. Focus group participants welcomed PSS concepts as interesting alternative models for consumption. It could be sensed from the discussions that PSS concepts were

perceived as something rather trendy, therefore having the support of participants' social environment (i.e. positive subjective norm in TPB). This is in line with Moeller & Wittkowski's (2010) identified trends of environmental concerns and financial uncertainty that contribute to interest towards PSS concept in addition to non-ownership consumption.

Positive effect to consumers' attitudes and interest towards a PSS concept always requires that it fulfills a need for the consumer in an understandable way. Hypothetical PSS concepts that did not fit into participants' current lifestyles were not creating any discussion around them, although some groups were more eager to imagine new lifestyles than others. Especially participants with small children or whom were living outside city centers were eager to assume that the hypothetical PSS concepts could not serve their needs at all. This attitude stem from the assumption that a subscription PSS model could not be profitable business if it would not be an all-in-one business model, not concentrating on special needs of more niche groups.

A general question for all the concepts was "What if something unexpected happens? Can this service fulfill my spontaneous needs?" raised especially for mobility-as-a-service concepts. This caused the participants to find many of the concepts too uncertain to subscribe to, as spontaneous needs are naturally hard to predict, and therefore hard to ensure before subscribing. This uncertainty causes negative attitudes towards PSS concepts as presented earlier in this thesis, as well as in the works of Catulli (2012) and Rexfelt & Hiort af Ornäs (2009).

## 2. PSS decreasing perceived costs

As PSS concepts usually come to replace traditional product and ownership-based models, it needs to convince consumers of its superiority as an alternative to the status quo. PSS concepts are perceived as long-term commitments to one service provider, which in relation to ownership of products creates rules and inflexibilities in comparison to owning a product. Therefore, PSS models must create superior value that overcomes these concerns, in order to become a viable option for consumers. According to the focus group results, the first thing that participants grasped of PSS potential for value creation, was related to its ability to decrease perceived costs, i.e. time, effort and financial as well as emotional burden. This is in line with Ajzen's theory, where the third variable affecting decision making is defined as *perceived*

*behavioral control*, representing “the ease or difficulty to perform the behavior of interest”.

Large part of PSS value creation is resulted by result-based and use-based PSS ability to align customer and service provider interests in terms of product lifetime and additional services that benefit both parties (see e.g. Pawar et al., (2009)). This is accomplished by switching the ownership of the product from customer to service provider, therefore decreasing burdens of ownership for the consumer. This was interesting to focus group participants who identified similar burdens of ownership as presented e.g. by Moeller & Wittkowski, (2010): perceived risks of making incorrect product selection, responsibility of maintenance and repairs, paying full cost of goods for which consumers need only infrequently. Participants expressed anxiety over burdens of ownership in both small and large investment products and decreasing these perceived costs resulted as the largest source of value creation in PSS. A more detailed description of ownership related results are provided in chapter 4.2.3 Non-ownership consumption.

In line with burdens of ownership, focus group participants valued PSS for its ability to free capital from high investment purchases to other more efficient uses. This relates especially to products with steep decrease in their monetary value after purchase, e.g. private car ownership. However, this was not perceived to be at the core of PSS value creation for the majority of participants, which is in line with findings of Fortin & Greenlee (1998), stating that comparing services and products is difficult for consumers, who therefore avoid this calculation in the first place. In line with this, economic considerations were raised by only a few focus group participants as the main source of value. Economic considerations for PSS are further described in chapter 4.2.1 Subscription payment.

It could be observed that focus group participants expected the PSS offering to have a stream like nature, much like in digital subscription services we see today. Therefore an important source of decreasing perceived costs is created from decreases in search costs of products. This is in line with Xu & Ilic (2014) who found that reductions to search costs of product related services have a significant effect on intention to use. Large assortment was stated as a requirement and this stream of products was assumed to have high variability and include regular updates. Participants showed interest toward an ability to gain broader access to a broad range of products with their up to date versions. This aspect of PSS also encourages new



ways of consumption, e.g. renting 10 waffle irons to one party, that has not been regarded as an alternative earlier. Although renting based services currently in the market make this possible, a holistic PSS concept encourages experimenting in new ways, probably caused by a subscription fee that prevents surprising additional costs to the consumer.

Focus group participants experienced decrease in perceived costs with PSS especially in terms of savings in time, effort and emotional burden in handling routine tasks. They found valuable the opportunity of PSS as a holistic service concept to cover everyday tasks like going to the grocery store and doing maintenance work at home, for them. Time and effort savings was also noted as a requirement for accessing, i.e. acquiring and letting go of products smoothly in PSS offering. Therefore the notion of temporality in access-based consumption as defined by Bardhi & Eckhardt (2012), creates new requirements for setting up PSS service offering.

### 3. Experiential aspects of PSS – increasing perceived benefits of PSS

If focus group participants considered a hypothetical PSS concept fulfilling their needs (phase 1) in a more efficient way (phase 2) they came to discuss and ideate the experiential aspects of PSS offering (e.g. in the form of additional services). Experiential aspects are the entertaining, surprising aspects in the offering that allow customer participation to the service experience and create experiential, symbolic and emotional value (Pine & Gilmore, 1998).

Focus group participants stated high expectations towards PSS offering and the subscription service concept entailed quality for them in line with (Fortin & Greenlee, 1998). This could be drawn partly from consumers need for payback against the risk they experience when not owning a product but trusting a service provider to fulfill all their needs potentially within a longer period of time. Therefore, a compensation is required, in this case in the form of excellent customer experience, usually delivered by a holistic service concept bundling in multiple additional services. Some participants stated straight that they are not willing to pay for “products with a subscription fee” but additional services and experiences the concept can provide is of main interest to them in PSS. For example in terms of sharing one’s own items, the participants considered it a requirement to be able to share without ever noticing that the product was used somewhere else and returned afterwards. Another example of additional services proposed were home-as-a-service concept with a cleaning service

that proactively investigates and proposes any needs for maintenance work at home and leaves a happy note and a bar of chocolate when they leave. Therefore, what becomes the unique value of PSS are the experiences that consumers can have in their everyday life, provided by more time freed (decreasing perceived costs) or included in the PSS concepts themselves (e.g. the chocolate bar). These experiential aspects are hard to compete with traditional ownership-based consumption models.

Brought into the frame of Maslow's hierarchy of needs (1943; 1954), seeking experiences comes into question once the basic levels of needs have been fulfilled (physiological, safety, belonging and self-esteem). As has been theorized by Pawar et al. (2009), these basic needs have in most part been accomplished in Western economies, creating pathway for new holistic service concepts with experiential aspects, including PSS. Therefore, it could be predicted that PSS concepts that are able to help consumers in fulfilling their needs in self-actualization level (pursuing their talents, creativity and provide fulfillment) are the ones that consumers are motivated to switch their consumption to.

Experiential aspects in PSS also serve as a critical factor in making subscription revenue model work for lower cost products. Fortin & Greenlee (1998) concluded in their work about consumers' evaluation frames for comparing product and service offerings, that subscription services are preferred over product offerings if there is no clear time limit to when the total product cost is reached with subscription payments. For PSS including lower cost products, it is critical that the concepts are able to create value by adding new benefits for the consumer, e.g. with additional services that create experiential, symbolic and emotional value, because many of the products might be available for ownership for lower total costs. This is further emphasized by subscription payments being perceived by consumers as limiting and inflexible (as will be shown in chapter 4.2.2 Subscription payments).

### **Barriers to switch from products to PSS**

A critical factor in determining a holistic service concept a viable alternative to traditional ownership-based models, is based on consumers' investments (time, money, effort) into the status quo. For example, the more consumers have invested into their home appliances to integrate into their home furniture and other appliances, the less they are eager to subscribe into a service concept fulfilling this same need. This phenomenon is referred to as sunk costs

by Arkes & Blumer, (1985), stating that previous decisions cause a bias in future decision making, as a form of irrational consumer behavior. This notion applies also to intangible aspects, i.e. routines and behavior that has been learned around the current ownership-based model.

When considering new service models it is hard for consumers to evaluate the many consequences switching from ownership to a service model may have. This uncertainty has been identified as the most influential barrier in PSS adoption by Rexfelt & Hiort af Ornäs (2009) and Catulli (2012) in their previous research on the topic. The focus group results of this thesis are in line with this observation. Choosing not to own, but instead subscribe for a service to access a tangible product, might cause many consequences that are difficult for consumers to predict. For example, focus group participants were very cautious of PSS to cause any extra hassle or effort in their everyday lives, even if the service would free them from many other routine tasks. Based on the previously mentioned assumption of regular updates and variability in products available in PSS concepts, participants feared of more of their time and effort being used to acquiring the products and taking them to use. This was seen from participants emphasizing e.g. the need for well-functioning home delivery and clearly written manuals for more technical products.

Additionally, participants stated that simply trying new things and changing the status quo caused them emotional burden. As with PSS, the consumption model changes from ownership to access and sharing based, potentially major preparations are in place in order to switch to the non-ownership model, e.g. getting rid of owned products and practicing new routines. This is in line with findings of Planing (2015) who argued that learned habits, routines and preference for status quo are some of the main reasons for not switching to a service based business model. As added in this case with a subscription revenue model, consequences to one's personal finances in the long-term and effect on everyday life are hard to evaluate. Therefore, PSS starts to look like a risky and time-consuming change to implement, and special effort needs to be taken in order to show the previously described value that PSS can create to motivate consumers for the change. This "difficulty of starting to do something" as expressed by some focus group participants can on the other hand be a benefit for PSS, as the holistic service concept enables the service provider to fulfill consumer needs proactively. This will potentially remove the need for consumer to see the effort of considering and planning a behavior.

Lastly, although environmental concerns play a big part in making PSS concepts a viable alternative consumption model, many focus group participants stated that this would

not be enough for them to take a service to use. Therefore, political consumerism identified as a dimension affecting demand towards access-based consumption Bardhi & Eckhardt (2012) seemed not to have an effect as a stand-alone feature for the majority of focus group participants. Evidence was requested of whether the PSS concept would really provide the promised benefits. Concerns were raised e.g. towards product deliveries causing emissions and shared products sitting in a warehouse not used. This creates challenges for designing an assortment in PSS – on the other hand, it is critical for the assortment to be big enough to fulfill all of subscribers' needs, however with less used products in bigger assortments, the promise of environmental friendliness is not always fulfilled.

### 3.2.3 Subscription fee

Subscription payment subcategory covers consumer attitudes towards continuous subscription services with a periodic and fixed reoccurring payment. Its findings cover consumer perceived barriers and value toward a subscription revenue model as used in PSS concepts as well as participants' assumptions regarding the content of subscription service offerings. The general reaction towards subscription revenue model is clearly negative, because it is regarded limiting, inflexible, causing extra hassle, and the re-occurring payments not providing much benefit to exchange for ownership of a product. Consumers also have clear preconceptions of which kinds of services fit to subscription revenue model and which requirements they need to fulfill in order to become an interesting alternative to them.

#### **Perceptions and assumptions about subscriptions**

Subscription based services were considered limiting and inflexible in many ways. When paying a fixed, periodic fee to access an offering presumably with a long-term commitment, consumers perceived risk in getting locked into one service provider and their offering. This was based on many previous experiences with service providers utilizing subscriptions with the aim of increasing consumers switching costs (see e.g. Amit & Zott (2001) for this e-business strategy). This can be caused by service provider making unsubscribing difficult with service contracts and/or service design or by providing high benefits of concentrating all of consumer's resources into one place (e.g. Apple products integrating with each other and Spotify encouraging concentrating all music playlists to their service). Limiting service contracts were noted especially apparent in traditional subscription services e.g. gym

subscriptions, even referred to as “forced selling” by some focus group participants. Current digital services were regarded less risky in this aspect.

This perceived risk of lock-in also relates to a potential limitation caused by a service providers’ assortment and offering. If the product that is needed at certain time is not available with a subscription service, the consumer has to pay the periodic fee in addition to the cost of acquiring the missing item from outside the service. A commitment to one service provider also caused some participants to state concerns towards losing an element of surprise. This was emphasized especially in terms of vacation houses-as-a-service concept, in cases where the participant followed a certain nomad lifestyle and travelled a lot, they feared that a subscription service would make their traveling too predictable and take away from the experience. In general, any longer term commitment to a service provider raised concerns of whether all future spontaneous and unexpected needs can be fulfilled with the concept. Shorter subscriptions and elements of pay-per-use models bundled with subscription fee were offered as a potential solution for this.

Another limitation consumers found in subscription services was the perception of fixed periodic fee bringing with them a bunch of new rules and regulations in how the service should be used. This perception was based on previous experiences with e.g. rental cars, although not subscription services. Focus group participants considered it a burden that the customer has to check for damages, make decisions of additional insurances and be careful of not missing any of the rules in small print, in fear of facing serious consequences. These rules were seen as only benefitting the company and enabling the subscription fee to stay on a uniform level, while assuming that a pay-per-use mode would include less rules and regulations towards users.

### **Economic considerations**

Considering viability of subscription offering from financial point of view was a top concern for some focus group participants. This was mainly stated with a question: “when have all the subscription fees summed up to the actual cost of ownership of that product?” in line with findings of Fortin & Greenlee (1998). Clear differences across the approach of different focus group participants could be sensed in this respect, as only a few of them thought about the question in the first place. Clearly, products that require a heavy up-front investment were considered more viable for subscription service model, however when the discussion turned into additional services and experiential aspects of the services, economic viability of the subscription contract was blurred, as described previously.

All participants considered it a potential risk to pay extra for elements of the offering that were not benefitting them personally. This was based on the assumption that subscription fee would be based on the total cost of the tangible product(s) being divided to fees across a period of time and that the service offerings would be the same for all consumers. This is an interesting notion as compared to consumer's willingness to subscribe to all-in-one digital music and movie services, where they are not aiming to consume all of the content anyway. Therefore, this notion could be tied to a certain preconception that PSS subscriptions must be of much higher cost to consumers, once they include tangible products in the offering. Therefore, a chance to customize the service package for one's needs only was considered an optimal solution and adding in elements of use-based pricing in addition to subscription fees was considered important to all participants. Therefore, according to the sessions, a combination of pay-per-use and subscription fee models would be the optimal from consumers' perspective to charge for PSS, in line with findings of (Danaher, 2002).

More information of the total cost of ownership in status quo as an alternative for the subscription PSS was considered important in making a decision to subscribe (e.g. the real cost of owning a car vs. driving cars in a mobility-as-a-service concept). As a precondition of subscribing, participants wished e.g. the monthly subscription fees to be less than what they were paying currently on a monthly basis, regardless of the additional services that may be provided. Subscription service's main benefit was seen in providing services that save time and effort of consumers. For example, clothing-as-a-service concept became an interesting alternative especially to consumers that are not interested in fashion and not willing to use time for their clothing and style. This caused a contradiction in terms of the subscription fees, as the fee would optimally be lower than the cost related to current situation, the ones that would benefit the most of clothing-as-a-service models, were not using much at all money to clothing on a monthly basis.

Regular subscription fees were considered clearly beneficial only in situations where the current competing offering included unexpected costs, e.g. services delivered by humans and billed by the hour. For example, many of the participants considered it risky to order a mechanic to fix something in the house, as they were afraid that they would have to cover unexpected costs of the service provider such as transportation costs and tools. Also, an even periodic subscription fee for a vacation house (within living-as-a-service concept) was found viable only if the monthly cost would allow the customer to pay less for the house than by renting it during holiday season.

Subscription payment was considered a burden in relation to the situation where consumer could easily afford owning the product with a one-time payment. This way they are forced to constantly calculate economic consequences of their subscription decisions in the long-term, which requires an ability to forecast the costs far to the future versus making a one-time investment affecting only the situation at hand. The fees of multiple subscriptions were considered hard to control, as e.g. many smaller monthly subscriptions could cause a major unexpected total cost on a monthly basis. This entails that subscription PSS concepts with a broad enough coverage of handling consumer's everyday needs, tasks and obligations would succeed as their benefits in the long-term would be easier to evaluate, without a need for combining multiple concepts together.

*Table 3 Well-fitting offerings to a subscription revenue model*

<b>Well-fitting offerings to a subscription revenue model</b>
Services that free the customer from time and effort in repeating activities
Products that require a large one-time investment
Products and services that are needed on a regular and continuous basis, that go bad or need regular updates (a stream-like offering)
Contracts that guarantee a cheaper total cost with continuous subscription or decrease perceived risk (e.g. insurance)

### 3.2.4 Non-ownership consumption

This chapter presents focus group results in terms of consumer preferences for adopting PSS concepts from the perspective of non-ownership consumption. This refers to elements of the offering that require the consumer to give up on the ownership of e.g. their clothing, home appliances, home / vacation house and car and switch the consumption model to an access-based one. This chapter presents the advantages and barriers consumers find in these service concepts. Non-ownership consumption was generally perceived as an interesting option, its biggest values were found from lessening the burdens of ownership with examples and categories in line with previous research (Moeller & Wittkowski, 2010). Also new ways to consume products, made possible by access-based consumption models were found interesting and valuable. The main concerns raised were related to perceived sunk costs and

routines built around current ownership-based consumption as well as the difficulty to imagine access-based consumption to work for certain product categories.

As non-ownership consumption is in some of the presented hypothetical PSS concepts an unfamiliar offering (e.g. clothing and home appliances), many assumptions were made among focus group participants about their content and the way they operate. All groups assumed that non-ownership consumption would entail a certain amount of variability in product offering, in the form of updates and samples. In many discussions it could be seen that they assumed a certain level of regularity and seasonality in these updates and samples, e.g. with clothing-as-a-service it seemed logical to access a new set of clothing once a month or to change the wardrobe for each new season (summer vs. winter ware). This entails that some level of predictability and seasonality is needed in addition to variability, if the item would not be in one's ownership. This possibly serves as a way to lower perceived risks related to access-based consumption.

Findings regarding non-ownership consumption are presented next, categorized in participant's perceptions of ownership, perceived value and barriers of adoption as well as attitudes toward sharing and pooling based consumption models.

### **Perceptions of ownership**

Ownership is not regarded as valuable in itself but current ownership-based consumption remains to hold as there are currently no valid alternative models in the market. Supporting this, focus group participants were generally eager to give away their owned products to a shared use, in all of the product categories presented in the hypothetical PSS concepts. On the other hand, they gave statements that supported the notion of perceived ownership, i.e. participants experiencing ownership-like attachment towards products that they access continuously and do not necessarily own in its legal terms (Belk, 1988).

Although the reaction towards non-ownership consumption was generally positive, differences could be sensed in how participants considered letting go of the ownership of different categories of products they currently possessed. Many of these differences can be explained in the different types of value the different product categories are creating to consumers, e.g. as categorized by Smith & Colgate (2007): functional, experiential, symbolic and cost/sacrifice. It could be sensed, that there are certain items that have built another level of value in possession, e.g. in terms of long history, emotional bond and as a building block for one's own identity, in line with Belk's (1988) theory of extended self. These products were usually items that were custom made and/or acquired as a present from



close ones and therefore presented experiential and symbolic value in the form of emotional bond. Home was a clear example of this, as it created heavy statements like “my home is my home” among many participants opposing non-ownership models, based on emotional and hard to identify reasons.

Clear majority of participants were willing to give up of the ownership of their clothing, although it can be regarded as a way of communicating one’s identity to others (Belk, 1988) and therefore presumably creates a stronger bond for the consumer. Today’s wide and low cost access to lower quality clothing that has a shorter lifetime may have decreased consumers’ willingness to own clothing. However, the participants suggested that the clothing-as-a-service models would best fit men (from women participants’ perspective) and small children, as these groups were regarded as not so precise of the clothes to use and having a need of updating regularly. This was presented as a statement “I think this is interesting, however maybe not for me, this X group could be a potential target group”. This contradiction entails that there are perceived barriers regarding non-ownership consumption of clothing, that the participants could not quite put into words, potentially referring to some level of symbolic and emotional value, similarly as with ownership of one’s home. However, as there were many uncertainties in setting up clothing-as-a-service models in practice (e.g. home delivery, product information and access to the product when needed), the perceived barriers may be created also out of fear of extra time and effort subscribing to this model might create to consumers.

While living-as-a-service was considered the most distant concept for non-ownership consumption, home appliances-as-a-service concepts were considered the most viable and realistic. Based on this, it seems that the more functional value a product is providing instead of emotional value, the easier it is to be switched into an access-based service concept. When the ownership of home appliances is removed, the focus group participants came to expect also to get service personnel to use a machine or gadget in question to provide the functionality of the product. This emphasized the fact that consumers are not using home appliances for simply the joy of using them, but in order to reach certain outcomes, i.e. their functionality. This is in line with one of PSS concept’s core ideas, that products are switched to services that only transfer functionality with access-based consumption (see e.g. Tukker, (2004)). This can therefore be concluded to be easily understandable and interesting part of PSS concepts to consumers. In focus group sessions, participants were more eager to give up on the ownership of rarely used specialized machinery that required more skills and knowledge to reach the wanted outcome. This is in line with the work by Dholakia &

Venkatraman (1993) who concluded that consumers are more willing to switch to a service concept, the more there is perceived risk involved in reaching the wanted outcome and the rarer the need is.

### **Perceived value and barriers of non-ownership consumption**

A major selling point of non-ownership based PSS concepts was the possibility to save space from one's home. The participants experienced anxiety over not being able to fit all their possessions nicely in their homes especially applied to seasonal clothing (e.g. winter jackets) and home appliances having less regular use (e.g. waffle iron). The participants were also keen on the idea of not having to move clothes and machinery to a storage location and back each time they would or would not have a need for the item. Therefore, the value non-ownership consumption provided to consumers was time, space and effort savings.

Focus group participants expressed anxiety over having to buy items that they only use rarely and/or irregularly. A focus group participant told a story presenting this anxiety: she needed a drill for a repairing task at home and decided to choose a low cost model as the need for that was only temporary. The drill broke quickly, after which she bought another one low cost model, only to find that the new drill broke as well. In the end, she ended up investing to a higher cost drill that lasted longer, but felt regret over the previous purchases. Anxiety was expressed over wasteful use of resources as well as the extra effort she needed to see and cost she had to pay in order to fit consumption into their rare and temporal needs. Low quality (brought in by low cost) of some products surprised participants, creating a motivation to find an alternative consumption model to prevent them from being forced to pay for the ownership of these products.

Non-ownership model was seen a great fit especially for products with only a temporary or rare need, as consumers would not have to see the effort of letting go of the product(s) after not needing them. The participants were also very interested in possibilities to try products without having to commit to them, by simply accessing different alternatives to find the right one. The discussions entailed that with the current ownership based models, returning an item would take extra effort and was seen as an unpleasant thing to do from service provider's perspective.

When it comes to the use of privately owned products, perceived burdens of maintaining, carrying the product around, repairing and looking out for the product to not be stolen arise. E.g. city bikes were welcomed to Helsinki as a great alternative to using one's own bike, as it provided the opportunity to flexibly use other modes of transportation when

needed. The perceived risk of having one's own bike stolen in the city was eliminated, and although replaced with a less comfortable biking experience, it was considered a more valuable option. This applied also to products to which consumers generally create a higher emotional bond to, as summer cottages were considered generally as "work camps", referring to time-consuming up keeping and maintenance of the facilities.

On the other hand, in non-ownership models, the participants attached a high level of risk related to the availability of products in the assortment in addition to how and when they would access it when needed. Participants felt strongly about not having all they need for access quickly enough. Although ownership of products contains certain burdens, it does offer the flexibility, freedom and simplicity of being able to access the product at any time from a location chosen by the consumer. As an example, taking clothes out of one's closet versus accessing them via a portal on a monthly basis causes concerns of the service level and time it takes to actually have the clothing in use.

Lastly, focus group participants considered it important to be able to purchase a product for ownership if it was a good fit for their needs. This entails that a soft landing towards a non-ownership model would be needed, e.g. in the form of practicing and by letting go of current ownership based models in baby steps. This is emphasized by participants' concerns over preparations that are required in order to switch to non-ownership consumption model, e.g. getting rid of currently owned products and learning new everyday routines in accessing them.

The table below presents a recap of results in terms of consumer preferences in adopting PSS concepts with non-ownership consumption in the form of requirements for early stage concepts.

*Table 4 Requirements for access-based PSS concepts*

<b>Requirements for access-based PSS concepts</b>
Flexibility – option to own in addition to access
Possibility to easily access and get rid of products, preferably home-delivery and pick-up
Possibility to easily take the products to use, e.g. clear and uniform manuals
A lifestyle / product category that does not represent identity building via ownership of products
Broad enough assortment of products, no need to buy from elsewhere
Possibility to access the products wherever and whenever needed

### **Sharing and pooling**

Sharing and pooling serves as a subcategory of non-ownership consumption, with an emphasis on consumers' perceptions of how to set up sharing and which advantages and barriers they consider. The findings in this area partly support previous studies conducted by Armstrong et al. (2015) on clothing-as-a-service models in Finland. They found that issues in sharing clothing stem from non-ownership issues, stigma of second-hand and skepticism about company motives.

Focus group participants did not consider sharing benefitting them in any way, unless it would enable them to access better assortment and quality of products. This is no surprise, as sharing tends with current models require more time and effort from consumers than simply buying new products and includes the effort and risk of assuring trustworthiness of other participants within the concept. In spite of this, sharing was considered a rational thing to do and the notion of wasting resources seems to create anxiety to some focus group participants. Many groups eagerly ideated efficient ways to share resources, of which sharing among one's neighborhood was given as a proposal most regularly.

A clear concern shared by all focus group participants was that of hygiene, especially in terms of shared clothing. Each group had some participants that did not wear used clothing at all. As a requirement, participants wanted evidence of the condition of the shared product and a clear allocation of roles and responsibilities for the maintenance of the shared product. This brought the discussion to consumer involvement and anonymity, as defined by Bardhi & Eckhardt (2012) as two of the six dimensions of access-based consumption. A couple of focus groups discussed whether it would be more viable to push the responsibility of the condition of the products to customers or to the service provider and who would decide who

can join the service. Participants seemed more eager to push these tasks to the service provider for a fee, in order to minimize their effort and perceived risk in using the service. However, most of the participants stated that they would not mind to participate to the service with their own face and name if needed, for creating trust among the customer base for sharing purposes.

This notion also comes to show the novelty of the sharing based models, as the basic organization of work is somewhat still a question mark. The need for stating roles and responsibilities stem mostly from participants not trusting other users, well-described by a comment of a participant that “shared cars are driven very differently as they are not the driver’s own”. This applies also the other way around, as participants perceived sharing based models risky in the fear of breaking or damaging the shared products themselves, by accident. Therefore, trust towards other participants and unclear rules for sharing became the largest barriers for adoption of sharing based models.

As with non-ownership consumption, sharing based models raise the concern of not being able to access a product quickly enough when needed. Brought to the sharing context, this would be caused by someone else booking the resource and that there would not be enough of the products for sharing. Evidence was required from service provider, that there would be enough products or there would be other compensation or process for a situation when they run out of products. Some PSS concepts were considered hard to implement because of this regard, as some products are those that all customers need at the same time, e.g. winter clothing and other seasonal products. In order for sharing to work, the serviced area should be global or the product category should not have steep seasonality in demand. This would enable more efficient use of resources, which is stated among focus group participants as the main motivation of subscribing to sharing based models.

Participants also raised concerns over extra effort and stress that sharing based models would cause them in terms of preparing things for sharing. For example, many were willing to share their home, however it was considered to require massive preparations to ensure that nothing is going to brake or be stolen during the visit. This was emphasized by the perception that legal issues and insurances are not yet built to apply sharing, therefore leaving more of the responsibility and risk of something unexpected to happen to the consumers themselves. When discussing participants sharing their own products, they also feared of having to step into the role of a guide and provide user support for the one acquiring the product. Therefore it can be concluded that the more the sharing based PSS model requires consumer involvement, the more barriers consumers perceive in adopting them.

On another note, many participants feared of sharing based models removing a certain level of luxury as the products would not be new. Also, “the smell of new products” and the unboxing experience were raised as elements that would presumably be removed from sharing based models. Sharing a product was also considered to remove the possibility of customizing and tailoring products to one’s individual needs, important for some participants. These sharing related limitations were also related to a certain cultural assumption that shared products would be targeted to people that are forced to share products because of limited resources available. This was further backed up by a couple of focus group participants stating that “ownership is highly valued in Finland”. This image is decreasing in importance as environmental concerns are becoming more mainstream, however it does have a distinct effect on attitudes toward sharing.

*Table 5 Requirements for sharing based PSS concepts*

<b>Requirements for sharing based PSS concepts</b>
Provides an access to better and/or larger assortment of products compared to alternatives
Evidence of product being fully functional and clean when accessed / trustworthiness of other users
Insurances need to cover sharing based consumption
Additional services to help in covering and hiding personal property that is not for shared use
Low participation – most of sharing related activities included in the service

As a recap of all results, the table below shows the main observations concerning consumer preferences towards adopting subscription PSS. The table presents a recap for things consumers want to ensure before subscribing to a new PSS concept and which approaches were the winning ones as raised in the focus group discussions.

*Table 6 Questions and preferred answers of PSS offerings before subscribing*

<b>Things consumers consider before subscribing to PSS</b>	<b>Preferred offerings</b>
Is the service contract open-ended or with a fixed time-period?	Open-ended contracts
How quickly and with which kind of effort can I unsubscribe from the service?	Easy to unsubscribe at any time
How big is the assortment of products I can access?	Evidence of a large enough assortment of products for an individual consumer / a clearly communicated plan for what happens if the needed product is not in assortment or available
Is the assortment of high quality? Is it durable for shared and access-based use?	An ability to give feedback and/or see other's feedbacks in addition to a clearly communicated plan for what happens if the needed product does not function as expected.
Does this take me time and effort to choose products and access them?	A model that does not rely on consumer making decisions on a regular basis – automation and recommendations
How quickly can I access a resource when I need it?	Evidence of quick delivery and availability
How quickly can I benefit from the service after paying?	Subscription fees and received benefits integrated, e.g. monthly subscription provides monthly benefit
Which geographical areas are covered?	All relevant areas covered, especially important in mobility and living related services
What should I do if something unexpected happens? (e.g. the product in PSS brakes in use)	Clearly defined who is responsible over checking the product. Responsibility and tasks pushed to the service provider, not the customer. Simplicity in rules and regulations.
How can I access the product? Home delivery, pick-up or something else?	Home delivery is expected in most PSS concepts, digital services for handling the subscription are assumed
Is this an economically viable decision in relation to the current ownership based model?	Additional services and experiential elements added to create new value, not only “products with a monthly fee”. A combination of subscription fee and use-based pricing to cover a range of different use cases is optimal.

### 3.2.5 Paradoxes of Technology applied to subscription PSS

In focus group sessions it was noted that PSS evaluations include many statements that both create value and barriers to consumers, which can be well presented with Paradoxes of Technology framework by Mick & Fournier (1998). The left column of the table presents the paradox as defined in more detail in chapter 2.2.1 of this thesis and the right side column an example of a case as applied to PSS context. As noted by Parasuraman (2000) that provided a Technology readiness index building on the work of Mick & Fournier (1998), also consumers that are innovators and optimists toward new technologies experience anxieties toward technology adoption. This is in line with observations made from the focus group sessions, as participants approached the concepts very differently although all shared positive and negative attitudes towards the concepts.

This framework is chosen as the concluding presentation of the results as it well presents the negative and positive aspects that focus group participants weighed in the sessions. As such, the table comes to conclude consumer preferences for PSS adoption as a whole, concerning that as a holistic service concept by combining notions of non-ownership consumption and subscription revenue model. In addition to this, it includes notions of added benefits via experiences and perceived costs while grasping uncertainty as one of the main barriers for PSS adoption.

The value of this framework is in its potential of drawing consequences of the paradoxes that are identified in this work. This same work by Mick & Fournier also presents coping strategies consumers have toward technology adoption based on the identified paradoxes. The relevant coping strategies for the work at hand are in Pre-acquisition coping strategies group, including: ignoring, refusing and delaying acquisition, pretesting (trying out the service first), buying heuristics (e.g. relying on most expensive cutting-edge technology, well-known and reliable brand), extended decision making (conducting extensive background research) and extended warranty/maintenance contract (decreasing perceived risk with insurance and /or long-term maintenance contract). Interestingly, some of the coping strategy content is already applied to many PSS concepts, e.g. insurance and maintenance contracts. All of these apply for PSS adoption and shed light to what kinds of service design and marketing decisions might have the best effect in launching a new PSS concept to the market. By doing this, these coping strategies help in determining the pace of servitization development.



Table 7 Paradoxes of Technology (Mick &amp; Fournier, 1998) applied to subscription PSS

<b>Paradoxes of tech</b>	<b>+ ; Value</b>	<b>- ; Barrier</b>
<b>Control / chaos</b>	PSS facilitates control and provides support for ensuring that products are used the right way. Rules and regulations make the concept easier to grasp for consumers	Consequences of subscribing to PSS are uncertain to consumers that lack experience of the concepts
<b>Freedom / enslavement</b>	Freedom of everyday routine tasks	Dependence and reliance on one service provider potentially with a long-term commitment
<b>New / obsolete</b>	Ability to access the newest product version with PSS with regular updates	Current ownership-based model becomes obsolete, requiring preparations (e.g. getting rid of old owned products)
<b>Competence / incompetence</b>	Ownership of tangible product with its obligations is switched to the service provider that can handle them with better expertise	Need to learn new routines and habits in order to make access-based consumption work
<b>Efficiency / inefficiency</b>	More efficient use of resources with non-ownership consumption models, more efficient use of capital with subscription revenue model	Extra hassle in accessing products in PSS offering e.g. with current home delivery services
<b>Fulfills / creates needs</b>	Fulfills existing needs with a service offering that provides more quality and experiential value than product ownership	PSS creating hard to evaluate future needs as consumption is switched to access-based with a subscription model signaling longer commitment
<b>Assimilation / isolation</b>	Access to a broader, better and variable assortment of products	Limits the availability presumably to one service provider, creating high expectations of service level
<b>Engaging / disengaging</b>	Creates experiences and frees time to new experiences, sharing based consumption model's potential for creating new social contact points	Enslaves and downgrades humans by doing everything to them by removing existing routine tasks.

## 4 Conclusion

Many studies have evaluated consumer preferences as a driver of servitization (Mont, 2002b) and a need for further exploration into consumer preferences in the field has been identified (Rexfelt & Hiort af Ornäs, 2009). This study provides material for thought for evaluating consumer perceptions towards subscription PSS by combining theories in services, PSS and eco-efficient services as well as ownership and non-ownership consumption. It utilizes theories in consumer decision making and value creation in order to understand consumer preferences toward adopting PSS, aiming to answer the question: *“What kind of value and barriers consumers perceive in adopting subscription PSS concepts?”* Doing this, the thesis provides an update for consumer preferences studies of the area 10 years after many of previous research and with new PSS models starting to become more apparent in the market and therefore more familiar to consumers.

In this updated exploration, the thesis comes to support previous focus group study findings as well as bring new aspects to the discussion. The work emphasizes the importance of experiential aspects of PSS offering in making it a viable business model from both consumer and company perspective, when bundled in with subscription revenue model. In relation to previous similar studies, the main difference in perspective of this thesis is in exploring the subject across a broad range of product categories and consumer needs and focusing on subscription revenue model only.

### 4.1 Findings and discussion

Based on literature in service evaluations, perceptions towards subscriptions as well as non-ownership research, the thesis presents a categorization of PSS offerings. The framework categorizes PSS offerings in terms of the time frequency of need that is being fulfilled and the investment level required to gain ownership of the tangible element in the service concept. From this framework it can be concluded that products that require a low up-front investment and that are in regular usage of consumers, are hardest to implement with subscription PSS models. This is because additional value creation needs to be considered in subscription services for low cost products and providing an access to regularly needed products is difficult with current service infrastructure. With this reasoning, the framework sheds light into the pace of servitization development that has been stated as one of the objective of this work.

Additionally, the thesis establishes that consumers grasp PSS value creation potential in three levels: 1. PSS ability to fulfill a need for them, 2. PSS ability of decreasing perceived costs and lastly 3. PSS ability of creating new benefits especially via experiential aspects. Focus groups approached the PSS concepts in these three levels, moving to the next one once the previous level and meaning for them was clear. Experiential aspects are of critical importance for consumer willingness to subscribe to a tangible offering that they can receive currently with a simple product transaction, as only “products with a monthly fee” is not an interesting value proposition to consumers. This notion is emphasized in low-cost product categories, where subscription fees quickly turn out more costly than product ownership. This also supports the interest toward PSS, as in Western economies consumers are operating in higher levels of Maslow’s hierarchy of needs, therefore turning to services that provide them experiential, emotional and symbolic value (Pawar et al., 2009).

In line with most of previous PSS studies, the general reaction towards PSS is positive and based on focus group discussions it seemed a trendy topic to discuss. Consumers state high expectations for PSS concepts, to them a subscription service concept entails quality and variability of product assortment. Such positive take and high expectations on PSS has been rarely found in previous research on the topic. A major part of PSS value creation, and also the most surprising finding of the thesis is that PSS potential lingers heavily on its ability of decreasing burdens of ownership by switching the consumption model to access or sharing, in line with Catulli (2012) and Moeller & Wittkowski (2010). In many of previous PSS adoption studies, letting go of ownership of products has been stated as a barrier for adoption (Armstrong et al., 2015; Meijkamp, 1998; Rexfelt & Hiort af Ornäs, 2009), however this study findings show otherwise. Participants did not find it problematic to let go of ownership, in case there was no identity building or emotional bond involved in the consumption. The main barrier in this context was that these models do not exist in the market and consumers are therefore forced to making unfavorable purchase decisions for ownership. Differences in this regard could be explained by some PSS concepts being published in the market, making them more familiar and interesting than 10 years ago.

In spite positive attitude toward PSS, the amount of barriers for adoption still outnumbered the positive regards in focus group discussions. This is in line with Parasuraman (2000) finding that also consumers that can be defined as innovators and optimists toward new technology perceived anxieties in terms of adoption. The values and barriers of PSS adoption are concluded with Paradoxes of Tech framework by Mick & Fournier (1998) by bringing it to PSS context (Table 8).

Referring to positive take on non-ownership consumption, the most preferred PSS concepts still always included a possibility for buying a product out of the PSS concept, if it served consumer's needs very well. In fact, PSS was seen as a wonderful way of trying out different products before purchasing them for ownership, presenting the difficulty to imagine full non-ownership models in practice before experiencing them. This serves as a great example of the size of the behavior and routine change that is expected from consumers to adopt PSS, therefore serving as the main barrier for adoption based on the findings of this thesis. Other barriers for adoption were created by the difficulty for consumers to imagine life after PSS adoption and its many long-term consequences with a continuous service contract. Subscription PSS is seen as a commitment that is risky as it combines long-term relationship with the service provider and the uncertainty of novel non-ownership consumption models, in line with findings of Catulli, (2012) and Rexfelt & Hiort af Ornäs (2009).

Subscriptions have not been the focus of previous PSS research. This area provided many interesting results, as focus group participants did not find any positive regards in subscriptions. Focus group participants expected subscriptions to include high switching costs (i.e. heavy lock-in) and a large amount of rules and regulations that would not be beneficial for them. They wanted to make sure not to pay for anything in the offering that is not benefitting them, and therefore requested to customize the product assortment based on their own needs. Also, long-term financial consequences were feared of getting out of one's control, as from many small streams of subscription fees, the total costs per month / year is hard to evaluate. Consumers considered a combination of subscription fee and use-based pricing the winning combination to most of PSS concepts, in line with (Danaher, 2002).

Participants required evidence of being able to access the product wherever and whenever needed and these concerns were emphasized for lower cost products that were needed regularly. Perceptions of home deliveries not working fluently in Finland created large barriers for PSS adoption, as it served as an obstacle in creating a stream-like nature of products, expected from subscription services. Fears related to sharing based consumption are similar to previous studies: concerns of condition of the products (e.g. hygiene), trustworthiness of other users and oneself in handling the products. This created a need for clearly started roles and responsibilities in how to participate to the sharing model, while staying motivated to use the shared products as if they were owned by the participant.

In line with previous research, environmental aspects were considered important (see e.g. Catulli (2012) and Meijkamp (1998), however did not serve as the main decision criteria

at any focus group discussion. Relational benefits of the service (as founded by Rexfelt & Hiort af Ornäs (2009) and supported by findings of this thesis) in addition to size and access to assortment, subscription price and service experience were always of more importance to focus group participants.

## **4.2 Limitations and future research**

Servitization has a strong academic basis in research from organizational perspective and B2B context. After this thesis, a need for further exploration into consumer perspectives on PSS is still of importance for both servitization and PSS research. As with focus group studies in general, the research at hand serves well as a background study for a broader large sample quantitative study that could generalize the results. However, as a limitation it must be noted that the focus group research in this thesis has been very narrow with 5 focus group sessions most of which conducted with participants in similar life stages and similar age groups. For example the busy lifestyles of participants may have affected the results in bringing the focus of PSS value creation to decreasing perceived costs. A broader focus group study after which a descriptive quantitative study are required after this thesis to generalize the results.

The hypothetical services used in focus group sessions aimed at covering many product categories and variable needs in areas that are familiar to participants. The results suggest that there are clearly identified differences among these hypothetical service concepts in terms of consumer preferences for adoption, more specifically based on the level of investment required to gain ownership and the time frequency of need. Although this part of focus group research can be regarded successful in its aim, further research is required for generalizing the four categories across a broader range of products. Additionally, it must be noted that as technology develops, the 2 by 2 matrix will require revisiting in the future. Potential upcoming focus group studies should be conducted with different products within one category in order to validate the findings of this thesis and provide deeper insight into each product category.

This thesis structured PSS adoption to product vs. service decisions, subscription revenue models and non-ownership consumption based on the structure of focus group discussions. A limitation for this structure is created via these themes blurring in together and affecting each other, therefore further validation is required to state clear reasoning for

consumer perspectives towards each of the themes separately, e.g. which barriers are stated for PSS and which for subscription revenue model or both?

PSS is not possible to be built by one service provider, but it requires an ecosystem perspective and collaboration of multiple parties (Pawar et al., 2009). Accordingly, the pace of servitization is affected by much more than only changing consumer perceptions. Suggestions for fields that might take PSS development forward are logistics (how consumers access the products) as well as financial services that help in evaluating future economic consequences of multiple on-going long-term subscriptions. Research on ecosystem perspective is required to gather full understanding of pace of PSS adoption e.g. via further investigation into how to make players in these fields all benefit from ecosystem participation.

Ecosystem perspective is also emphasized with the consumer stated need for PSS to holistically and proactively fulfilling consumer's needs. Therefore, PSS is not only about products provided with a subscription fee. Experiential aspects – personalization, consumer involvement and elements of surprise – become of great importance in making PSS concepts an interesting and valuable alternative consumption model to consumers. Service-dominant logic serves as a useful paradigm for PSS definition, therefore some research into co-creation of value and the use of operant and operand resources in switching from product ownership to PSS could be in place. In terms of experiential aspects of PSS concepts, future research could explore suitable experiential aspects added to PSS offerings in B2C context.

This thesis has set out to gain insights on consumer attitudes toward PSS adoption via comparing it to existing ownership based consumption models. However, not all PSS are going to replace an existing need with an existing product/service category. For further investigation into this, PSS concepts in relation to digital services are required. For example, in terms of consumer willingness to pay for all-in-one content services (e.g. Spotify and Netflix) but stating major concerns for paying for not used elements of PSS offerings. This might bring PSS business model innovation to more futuristic areas by not being limited by current habits and routines.

Lastly, there is always a certain difference between what consumers say that they would do and what they actually end up doing, and therefore a real decision making situation always provides more valid results in terms of consumer preferences. An experiment with a real PSS concept with real customers would serve as a basis for research on how should PSS business models be built i.e. adding costs, operations, activities and customer segments to the examination in addition to value creation.

PSS research still lacks perspective to consumer preferences, therefore the subject at hand continues to be a relevant for future research. PSS represents an opportunity for new business development and business model innovation. PSS is important in terms of sustainable business and provides food for thought in creating service concepts and business models that serve multiple stakeholders while using resources more efficiently. The findings of this thesis support appearance of PSS in terms of a potential future demand, however it also identifies many barriers that need to be crossed before PSS can be broadly adopted. Identifying these barriers is among the first steps to start solving them and innovating new sustainable, yet customer-oriented services.

## Appendix 1 – introduction and background questions for focus group participants

OP Lab tutkii uusia "tuote palveluna" -palvelumalleja ja kuluttajien kokemia esteitä niiden käyttöönottoon. Etsimme OPlaisia mukaan 1,5h kestoiseen fokusryhmäsessioon, jossa esittelemme uusia palvelumalleja ja keskustelemme kanssanne kuluttajina näiden palveluiden kiinnostavuudesta. Sinulla ei tarvitse olla taustaa tuotekehityksestä, haluamme kuulla rehellisen mielipiteesi palveluista kuluttajan näkökulmasta. Fokusryhmäsessiot pidetään Vallilassa heinä-elokuun aikana.

Maailman palvelullistuesssa näemme yhä enemmän uusia palvelumalleja, alkaen puhtaasti digitaalisista palveluista ja viime vuosina ulottuen myös fyysisten tuotteiden palvelullistumiseen. Esimerkkejä uusista "tuote palveluna" -malleista edustaa mm. DriveNow -autot, jotka tarjoavat auton käyttöä minuuttipohjaisella hinnoittelulla oman auton omistamisen sijaan. Uudet ruokapalvelut tuovat ruokakassit resepteineen kotiovelle kuukausihintaan (ks. esim. Anton & Anton) ja jopa partaterät voi hankkia nykyään jatkuvana subscriptionina Dollar Shave Clubin kautta.

OP Labilla tutkitaan näitä malleja uuden liiketoiminnan kehitystä varten ja tietoja hyödynnetään myös OP Labille tehtävässä gradutyössä. Sinulla ei tarvitse olla kokemusta kyseisten palveluiden käytöstä.

1. Käytätkö tai oletko käyttänyt mitään edellä mainituista palveluista tai muita samantyyllisiä "tuote palveluna" -malleja?

- ☐ Kyllä
- ☐ Ei
- ☐ En osaa sanoa

2. Käytätkö tai oletko käyttänyt kk-maksullisia palveluita, esim. keskittyen musiikkiin (Spotify), elokuvaan ja sarjoihin (Netflix) tai liikkumiseen (Whim)?

- ☐ Kyllä
- ☐ Ei
- ☐ En osaa sanoa



## Appendix 2 – hypothetical service concepts for focus group research



### Liikkuminen palveluna

Palvelun ydin	<p>Kaikki liikkumistarpeet yhdellä kuukausihinnalla: Useiden liikkumismuotojen käyttö yhdessä palvelussa ja yhdellä maksulla sis. lipun osto ja ajoneuvon varaus:</p> <ul style="list-style-type: none"> <li>julkinen liikenne</li> <li>kaupunkipyörät</li> <li>yhteiskäyttöautot</li> <li>kimppakyydit</li> <li>vuokra-autot</li> <li>taksit</li> </ul>
Lisäpalvelut	<ul style="list-style-type: none"> <li>reittiohjeet</li> <li>kulkuvälinesuosituks</li> <li>julkisen liikenteen aikataulut</li> <li>relevantti liikenneinformaatio</li> </ul>
Maksu	<p>Kk-maksu perustuen</p> <ul style="list-style-type: none"> <li>Matkustuksen määrään (esim. kpl, km)</li> </ul> <p>TAI</p> <ul style="list-style-type: none"> <li>Liikennevälineen valinta</li> </ul>



### Vaatteet palveluna

Palvelun ydin	<p>Vaatteet kuukausihinnalla: Pääsy laajaan valikoimaan uusia ja käytettyjä vaatteita omien preferenssien mukaan. Vaatteet ovat hyvälaatuisia koska myös yritys hyötyy siitä, että niillä on pidempi käyttöikä.</p>
Lisäpalvelut	<ul style="list-style-type: none"> <li>kotiinkuljetus</li> <li>portaali, josta vaatteita löytää helposti perustuen omiin preferensseihin</li> <li>työkalu oikean vaatekoon löytämiseen, vähentäen sovitusten määrää</li> </ul>
Maksu	<p>Kk-maksu perustuen</p> <ul style="list-style-type: none"> <li>aikaan jota vaatetta käytetään</li> </ul> <p>TAI</p> <ul style="list-style-type: none"> <li>kuinka moneen kertaan vaate on käynyt toisella asiakkaalla ennen sinua - useammin käytetty on halvempi</li> </ul>



### Asuminen palveluna

Palvelun ydin	<p>Asuminen ja oleskelu kk-hintaan: Pääsy useamman asunnon pooliin kotimaassa tai kansainvälisesti, esim.</p> <ul style="list-style-type: none"> <li>Koti Helsingissä, mahdollisuus valita mökeistä ympäri Suomen</li> <li>Kolme kotia Euroopassa, esim. Vantaa, Madrid, Amsterdam</li> <li>Kolme kotia, yksi kussakin maailmankolkassa: Eurooppa, Aasia ja Yhdysvallat</li> </ul> <p>Kodit / loma-asunnot jaettu muiden asiakkaiden kanssa, i.e. pitkäaikainen Airbnb jakamisominaisuudella</p>
Lisäpalvelut	<ul style="list-style-type: none"> <li>siivoaminen ja muu ylläpito</li> <li>valmis sisustus / muuttoapu omille tavaroille</li> <li>aloituspaketti tueksi uuteen maahan muuttaessa</li> <li>lisätiedot muista vuokralaisista</li> </ul>
Maksu	<p>Kk-maksu perustuen</p> <ul style="list-style-type: none"> <li>kotien laatutaso: koko, rakennusvuosi, sisustus ja kodinkoneet</li> </ul> <p>TAI</p> <ul style="list-style-type: none"> <li>kuinka usein vaihtaa kotien välillä ja muuttavien ihmisten määrä</li> </ul>



## Kodinkoneet palveluna

Palvelun ydin	<p>Kodinkoneet ja kodin laitteet kk-maksulla: Pääsy käyttämään yleisiä ja harvinaisempia kodinkoneita, joko pitkäaikaisemmalla leasing-sopimuksella tai lyhytaikaisempaan vuokraan, esim.</p> <ul style="list-style-type: none"> <li>• jäätelö-/leivänteko/pastakone jaetusta poolista kodinkoneita</li> <li>• pesukone 3-5 vuoden sopimuksella</li> </ul>
Lisäpalvelut	<ul style="list-style-type: none"> <li>• kotiinkuljetus</li> <li>• päivitykset koneisiin, halutessa aina uusien käytössä</li> <li>• ylläpito</li> <li>• ohjeet / kurssit uusien koneiden käyttöön</li> <li>• käytön tuki 24h</li> </ul>
Maksu	<p>Kk-maksu perustuen</p> <ul style="list-style-type: none"> <li>• laitteiden määrä</li> </ul> <p>TAI</p> <ul style="list-style-type: none"> <li>• laitteiden laatu ja lisäpalvelut</li> </ul>

## Appendix 3 – focus group session agenda

Osio ja kysymykset	MIN
Tervetuloa <ul style="list-style-type: none"> <li>• lyhyesti mistä on kyse</li> <li>• kiitos osallistumisesta lomien alla</li> </ul>	05
Käytännöt <ul style="list-style-type: none"> <li>• keskustellaan muutamista “tuote palveluna” -konsepteista</li> <li>• kiinnostaa rehellinen ja tunnepohjainen reaktio konsepteihin</li> <li>• ei oikeaa eikä väärää vastausta</li> <li>• palvelukonseptit ovat aihioita eli ei valmiita</li> <li>• kysy jos jokin epäselvää</li> <li>• vastaukset luottamuksellisia ja anonyymejä</li> <li>• haastattelut äänitetään</li> </ul>	10
Esittelyt ja mikin testaus <ul style="list-style-type: none"> <li>• saadaan ääni mikille</li> </ul>	15
Kysymyksiä?	
Kuvitteelliset palvelut (liikkuminen, asuminen, vaatteet, kodinkoneet): <ul style="list-style-type: none"> <li>• Ensimmäinen reaktio näihin palveluihin, mikä se oli?               <ul style="list-style-type: none"> <li>• mikä oli realistisimman tuntuinen?</li> <li>• mikä tuntui sellaiselta, että ei itse käyttäisi?</li> <li>• mikä oli lempipalvelu?</li> </ul> </li> <li>• valitaan palveluista 2-3 lähemmän tarkastelun alle</li> </ul>	20
Palvelu A <ul style="list-style-type: none"> <li>• onko realistisen tuntuinen? onko kokemusta tällaisista?</li> <li>• onko palvelu relevantti tai kiinnostava teille? miksi?               <ul style="list-style-type: none"> <li>• minkälaista arvoa? mitä hyötyjä?</li> </ul> </li> <li>• mitä vaatisi että luopuisitte nykyisistä kulutustottumuksistanne ja vaihtaisitte kk-hintaan tähän?</li> <li>• miten uskoisitte että elämänne muuttuisi jos tällainen palvelu olisi käytössä? Pystytekö kuvittelemaan elämää tämän palvelun parissa?               <ul style="list-style-type: none"> <li>• ei omistusta</li> <li>• jakaminen</li> <li>• tilaus olisi jatkuvaluonteinen</li> </ul> </li> <li>• mitä esteitä koette palvelun käyttöönotossa? mikä huolettaa? miksi?               <ul style="list-style-type: none"> <li>• mitä lisäisitte / poistaisitte / muuttaisitte?</li> </ul> </li> <li>• ostaisitteko jos tämä olisi nyt saatavilla 500 e/kk yksityisautoon tottuneelle / bussilipun hintaan julkisen liikenteen käyttäjälle</li> </ul>	35
Palvelu B <ul style="list-style-type: none"> <li>• onko realistisen tuntuinen? onko kokemusta tällaisista?</li> <li>• onko palvelu relevantti tai kiinnostava teille? miksi?               <ul style="list-style-type: none"> <li>• minkälaista arvoa? mitä hyötyjä?</li> </ul> </li> <li>• mitä vaatisi että luopuisitte nykyisistä kulutustottumuksistanne ja vaihtaisitte kk-hintaan tähän?</li> <li>• miten uskoisitte että elämänne muuttuisi jos tällainen palvelu olisi käytössä? Pystytekö kuvittelemaan elämää tämän palvelun parissa?</li> </ul>	50

<ul style="list-style-type: none"> <li>• ei omistusta</li> <li>• jakaminen</li> <li>• tilaus olisi jatkuvaluonteinen</li> </ul> <ul style="list-style-type: none"> <li>• mitä esteitä koette palvelun käyttöönotossa? mikä huolettaa? miksi?             <ul style="list-style-type: none"> <li>• mitä lisäisitte / poistaisitte / muuttaisitte?</li> </ul> </li> <li>• ostaisitteko jos tämä olisi nyt saatavilla 35 e/kk, alennus omien vaatteiden lisäämisestä pooliin?</li> </ul>	
<p>Palvelu C</p> <ul style="list-style-type: none"> <li>• onko realistisen tuntuinen? onko kokemusta tällaisista?</li> <li>• onko palvelu relevantti tai kiinnostava teille? miksi?             <ul style="list-style-type: none"> <li>• minkälaista arvoa? mitä hyötyjä?</li> </ul> </li> <li>• mitä vaatisi että luopuisitte nykyisistä kulutustottumuksistanne ja vaihtaisitte kk-hintaan tähän?</li> <li>• miten uskoisitte että elämäne muuttuisi jos tällainen palvelu olisi käytössä? Pystytekö kuvittelemaan elämää tämän palvelun parissa?             <ul style="list-style-type: none"> <li>• ei omistusta</li> <li>• jakaminen</li> <li>• tilaus olisi jatkuvaluonteinen</li> </ul> </li> <li>• mitä esteitä koette palvelun käyttöönotossa? mikä huolettaa? miksi?             <ul style="list-style-type: none"> <li>• mitä lisäisitte / poistaisitte / muuttaisitte?</li> </ul> </li> <li>• ostaisitteko jos tämä olisi nyt saatavilla 300 e/kk, alennus omien kodinkoneiden viemisestä pooliin</li> </ul>	65
<p>Yhteenvetokysymykset</p> <ul style="list-style-type: none"> <li>• Mitkä asiat tuntuisivat ensimmäisenä luonnollisimmilta lakata omistamasta ja mieluummin hankkia palveluna? Miksi?</li> <li>• Nousi esille että palvelut linkkautuvat melko tiukasti yhteen: miltä tuntuisi jos yksi yritys hoitaisi kaikki nämä?</li> <li>• Mitä yleisesti vaatisi että otatte kk-veloitteisen palvelun käyttöön?</li> <li>• Mitä yleisesti vaatisi että jakaisitte jotain muiden kanssa?</li> </ul>	85
Kiitos osallistumisesta!	90

## References

### Articles and conference papers

- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behavior and Human Decision Processes* 50, 179-211 (1991), 26(9), 1113-1127.
- Amit, R., & Zott, C. (2001). Value creation in E-business. *Strategic Management Journal*, 22(6/7), 493-520.
- Antikainen, M., Lammi, M., Paloheimo, H., Rüppel, T. & Valkokari, K. (2015). Towards circular economy business models: Consumer acceptance of novel services. *ISPIM Innovation Symposium*
- Arkes, H. R., & Blumer, C. (1985). The psychology of sunk cost. *Organizational Behavior and Human Decision Processes*, 35(1), 124-140.
- Armstrong, C. M., Niinimäki, K., Kujala, S., Karell, E., & Lang, C. (2015). Sustainable product-service systems for clothing: Exploring consumer perceptions of consumption alternatives in Finland. *Journal of Cleaner Production*, 97, 30-39.
- Baines, T. S., Lightfoot, H. W., Evans, S., Neely, A., Greenough, R., Peppard, J., Wilson, H. (2007). State-of-the-art in product-service systems. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 221(10), 1543-1552.
- Baines, T., & Shi, V. G. (2015). A Delphi study to explore the adoption of servitization in UK companies. *Production Planning & Control*, 26(14-15), 1171-1187.
- Bansal, H., Irving, P., & Taylor, S. (2004). A three-component model of customer commitment to service providers. *Journal of the Academy of Marketing Science*, 32(3), 234-250.

- Barnett, N. J., Parry, G., Saad, M., Newnes, L. B., & Goh, Y. M. (2013). Servitization: Is a paradigm shift in the business model and service enterprise required? *Strategic Change*, 22(3-4), 145-156.
- Belk R. (1988). Possessions and the extended self. *Journal of Consumer Research*, 15(2), 139-168.
- Belk, R. (2007). Why not share rather than own? *The Annals of the American Academy of Political and Social Science*, 611(1), 126-140.
- Belk, R. (2014). You are what you can access: Sharing and collaborative consumption online. *Journal of Business Research*, 67(8), 1595-1600.
- Benedettini, O., Neely, A., & Swink, M. (2015). Why do servitized firms fail? A risk-based explanation. *International Journal of Operations & Production Management*, 35(6), 946-979.
- Berg, B. L. (1989). *Qualitative research methods for the social sciences*. Boston: Allyn and Bacon.
- Burnham, T., Frels, J., & Mahajan, V. (2003). Consumer switching costs: A typology, antecedents, and consequences. *Journal of the Academy of Marketing Science*, 31(2), 109-126.
- Catulli, M. (2012). What uncertainty? : Further insight into why consumers might be distrustful of product service systems. *Journal of Manufacturing Technology Management*, 23(6), 780-793.
- Chen, C., Nakayama, M., & Leon, S. (2018). Are you hooked on paid music streaming? An investigation into the millennial generation. *International Journal of E-Business Research (IJEER)*, 14(1)
- Cronin, J. J. & Taylor, S. A. (1992). Measuring service quality: A reexamination and extension. *Journal of Marketing*, 56(3), 55-68.

- Danaher, P. J. (2002). Optimal pricing of new subscription services: Analysis of a market experiment. *Marketing Science*, 21(2), 119-138.
- Durgee, J. F., & Colarelli O'Connor, G. (1995). An exploration into renting as consumption behavior. *Psychology and Marketing*, 12(2), 89-104.
- Ertz, M., Durif, F., & Arcand, M. (2016). Collaborative consumption or the rise of the two-sided consumer. *The International Journal of Business & Management (ISSN 2321-8916)*, 4(6), 195-209.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behaviour: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fleura Bardhi, & Giana M. Eckhardt. (2012). Access-based consumption: The case of car sharing. *Journal of Consumer Research*, 39(4), 881-898.
- Fleura Bardhi, Giana M. Eckhardt, & Eric J. Arnould. (2012). Liquid relationship to possessions. *Journal of Consumer Research*, 39(3), 510-529.
- Fortin, D. R., & Greenlee, T. B. (1998). Using a product/service evaluation frame: An experiment on the economic equivalence of product versus service alternatives for message retrieval systems. *Journal of Business Research*, 41(3), 205-214.
- Goedkoop, M., van Haler, C., te Riele, H., and Rommers, P. (1999). Product-service systems ecological and economic basics. *Report for Dutch Ministries of Environment (VROM) and Economic Affairs (EZ)*
- Herrmann, A., Huber, F., & Higie Coulter, R. (1997). Product and service bundling decisions and their effects on purchase intention. *Pricing Strategy and Practice*, 5(3), 99-107.
- Hsiao, K., & Chen, C. (2017). Value-based adoption of e-book subscription services: The roles of environmental concerns and reading habits. *Telematics and Informatics*, 34(5), 434-448.

- Kanninen, T., Penttinen, E., Tinnilä, M., & Kaario, K. (2017). Exploring the dynamic capabilities required for servitization. *Business Process Management Journal*, 23(2), 226-247.
- Le Vine, S., Lee-Gosselin, M., & Polak, J. (2009). An analysis of car club participation and its environmental effects. *UTSG, Jan*
- Lovelock, C., & Gummesson, E. (2004). Whither services marketing? *Journal of Service Research*, 7(1), 20-41.
- Lusch, R. F., Vargo, S. L., & O'Brien, M. (2007). Competing through service: Insights from service-dominant logic. *Journal of Retailing*, 83(1), 5-18.
- Meijkamp, R. (1998). Changing consumer behaviour through eco-efficient services: An empirical study of car sharing in the Netherlands. *Business Strategy and the Environment*, 7(4), 234-244.
- Mick, D. G. & Fournier, S. (1998). Paradoxes of technology: Consumer cognizance, emotions, and coping strategies. *Journal of Consumer Research*, 25(2), 123-143.
- Moeller, S., & Wittkowski, K. (2010). The burdens of ownership: Reasons for preferring renting. *Managing Service Quality: An International Journal*, 20(2), 176-191.
- Mont, O. (2002a). Clarifying the concept of product-service system. *Journal of Cleaner Production*, 10(3), 237-245.
- Mont, O. (2002b). Drivers and barriers for shifting towards more service-oriented businesses: Analysis of the PSS field and contributions from Sweden. *The Journal of Sustainable Product Design*, 2(3)
- Oliva, R., & Kallenberg, R. (2003). Managing the transition from products to services. *International Journal of Service Industry Management*, 14(2), 160-172.



- Ostrom, A. L., Parasuraman, A., Bowen, D. E., Patrício, L., & Voss, C. A. (2015). Service research priorities in a rapidly changing context. *Journal of Service Research*, 18(2), 127-159.
- Parasuraman, A. (2000). Technology readiness index (tri). *Journal of Service Research*, 2(4), 307-320.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. 6. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1),
- Parry, G., Bustinza, O. F., & Vendrell-Herrero, F. (2012). Servitisation and value co-production in the UK music industry: An empirical study of consumer attitudes. *International Journal of Production Economics*, 135(1), 320-332.
- Pawar, K. S., Beltagui, A., & Riedel, J. C. K. H. (2009). The PSO triangle: Designing product, service and organisation to create value. *International Journal of Operations & Production Management*, 29(5), 468-493.
- Penttinen, E., & Palmer, J. (2007). Improving firm positioning through enhanced offerings and buyer–seller relationships. *Industrial Marketing Management*, 36(5), 552-564.
- Petrick, J. F. (2002). Development of a multi-dimensional scale for measuring the perceived value of a service. *Journal of Leisure Research*, 34(2)
- Pilat, D. (2000). No longer services as usual. *OECD Observer*, 223(223), 52.
- Pine, B. J., & Gilmore, J. H. (1998). Welcome to the experience economy. *Harvard Business Review*, July-August, 97-105
- Planing, P. (2015). Business model innovation in a circular economy: Reasons for non-acceptance of circular business models. *Open Journal of Business Model Innovation*
- Ravald, A., & Grönroos, C. (1996). The value concept and relationship marketing. *European Journal of Marketing*, 30(2), 19-30.

- Rexfelt, O., & Hiort af Ornäs, V. (2009). Consumer acceptance of product-service systems. *Journal of Manufacturing Technology Management*, 20(5), 674-699.
- Richins, M. L (1994). Special possessions and the expression of material values. *Journal of Consumer Research*, 21(3), 522-533.
- Roy Dholakia, R., & Venkatraman, M. (1993). Marketing services that compete with goods. *Journal of Services Marketing*, 7(2), 16-23.
- Schrader, U. (1999). Consumer acceptance of eco-efficient services. *Greener Management International*, 25 spring, 105
- Sheth, J. N., Newman, B. I., & Gross, B. L. (1991). Why we buy what we buy: A theory of consumption values. *Journal of Business Research*, 22(2), 159-170.
- Smith, J. B. & Colgate, M. (2007). Customer value creation: A practical framework. *Journal of Marketing Theory and Practice*, 15(1), 7-23.
- Sundbo, J. (2009). Innovation in the experience economy: A taxonomy of innovation organisations. *The Service Industries Journal*, 29(4), 431-455.
- Sweeney, J. C., & Soutar, G. N. (2001). Consumer perceived value: The development of a multiple item scale. *Journal of Retailing*, 77(2), 203-220.
- Thaler, R. H. (2008). Mental accounting and consumer choice. *Marketing Science*, 27(1), 15-25.
- Tukker, A. (2004). Eight types of product-service system: Eight ways to sustainability? Experiences from SusProNet. *Business Strategy and the Environment*, 13(4), 246-260.
- Vandermerwe, S., & Rada, J. (1988). Servitization of business: Adding value by adding services. *European Management Journal*, 6(4), 314-324.
- Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1), 1-17.

- Wakefield, K. L., & Blodgett, J. G. (1999). Customer response to intangible and tangible service factors. *Psychology and Marketing*, 16(1), 51-68.
- Woo, H., & Ramkumar, B. (2018). Who seeks a surprise box? Predictors of consumers' use of fashion and beauty subscription-based online services (SOS). *Journal of Retailing and Consumer Services*, 41, 121-130.
- Xu, R. & Ilic, A. (2014). Product as a service: Enabling physical products as service end-points. *Thirty Fifth International Conference on Information Systems*
- Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value. *Journal of Marketing*, 52(3), 2-22.

### **Book references**

- Maslow, A. H. (1943). *A theory of human motivation*. Psychological Review: Dancing Unicorn Books.
- Maslow, A. H. (1954). *Motivation and personality*. New York: Harper & Row.
- McNeill, P., & Chapman, S. (1985). *Research methods*. Tavistock Publications
- Puchta, C., & Potter, J. (2004). *Focus group practice*. London: SAGE Publ.
- Rogers, E. (1962). *Diffusion of innovations*. New York, NY: Simon & Schuster.
- Vaughn, S., Schumm, J. S., & Sinagub, J. (1996). *Focus group interviews in education and psychology*. Thousand Oaks, California: Sage.

## Web references

Gartner (2018) Digital trend spotter: Products become information-rich services,

*<https://www.cebglobal.com/information-technology/digital-enterprise-2020/trend-spotter.html?referrerTitle=Razor%20and%20Blade%20Business%20Model&referrerContentType=indexpage&referrerURL=https%3A%2F%2Fwww.cebglobal.com%2Finformation-technology%2Fdigital-enterprise-2020%2Ftrend-spotter%2Fcategory%2Fbusiness%2Frazor-blades-economy.html&referrerComponentName=Free-Form%20Code&pageRequestId=68119884-261e-4d27-bcf8-5daa42f996f0#leftTab0=3>*, last visited in 16th of July, 2018

McKinsey (2018) Thinking inside the subscription box: New research on e-commerce

consumers, *<https://www.mckinsey.com/industries/high-tech/our-insights/thinking-inside-the-subscription-box-new-research-on-ecommerce-consumers>*, last visited in 16th of July, 2018